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## ORIGINAL ARTICLES.

### PRESIDENTIAL ADDRESS.<sup>1</sup>

BY CHARLES L. DANA,  
OF NEW YORK.

THE honor of being elected president of the New York Academy of Medicine is one which I receive with keen appreciation of the distinction that is conferred. It brings to me, however, a sense of responsibility rather than one of elation, for I know that where so much is given, much is rightly expected. I shall devote to the Academy my best energies, and if it does not continue to prosper during my régime, it will not be because I fail to serve it as loyally and as wisely as I am capable of doing.

This Academy, with its well-equipped building, its superb library and its efficient medical organization, is perhaps the greatest single achievement of the profession of this city. It not only makes the practice of our art more efficient, productive and enjoyable, but it gives a dignity and a wider esteem to our calling. The Academy has a history of over a half century linked with the most honored names and best traditions of our calling, and it has, I am glad to say, a prospering present, thanks to the works of its many devoted friends. It deserves to receive your active support, and to be the agent in fostering the enduring work of the physicians of New York and its environs.

The Academy, as the reports show, is growing in membership and in all of its active departments, its sections are well attended and splendidly active. I have no new and radical policies to present or innovations in method to suggest therefore, for they are not needed. Nevertheless, we must at times suppress the sympathetic attitude toward an institution so important as this, and critically inquire whether it is continuing to do all that can be done in the interests of promoting medicine and the public health, and if it is doing it in the very best way.

### THE INCREASE OF MEDICAL SOCIETIES.

Looking at our work for the past few years from this point of view, it seems to me that we may not have fairly appreciated the tremendous changes which have taken place in the method of medical organization, and in the presentation of results of medical work. In the last twenty-five years there have been developed new methods of study and investigation, there has been an increased activity in medical organization, and a corresponding increase in the amount of medical talk, medical writings, medical journals and medical books. Thus, to refer only

to medical organizations, twenty-five years ago there were about 20 medical societies in Manhattan and the Bronx. There are now 52 such organizations registered in the Medical Directory. Of these 26 are general, and more or less public, while 14 are devoted to the specialties, and this number will be increased to 22, if we include the sections of this Academy. More than half of these societies are small, and partly social organizations. They meet at least once a month, during eight months of the year, and this means that there are during each season about 450 medical meetings provided for the 4,000 physicians of Manhattan. This makes for the six week-days of the season an average of about two medical meetings every evening. Although the majority of these societies have a small membership, it is evident that the claims on the profession for society attendance are very considerable. Such figures, however, do not give perhaps quite the right idea of the situation. If one looks through the pages of our medical directories they will see that the great majority of the physicians of New York belong to only one society, and some, apparently, not to any at all. And there is, no doubt, a very large number of physicians who do not attempt to gain the advantages of actual contact with the members of the profession, of hearing the living voice and of scrutinizing the personality of the authors of papers, such as are furnished by our medical organizations. It would be worth while, perhaps, to call to the attention of this class the fact that a man cannot practise medicine in the best way at the present day, cannot keep in touch with the progress of affairs, when working by himself, even if he is a diligent peruser of good books and periodicals. Personal contact with his fellow-men, even casual exchanges of experience, and the stimulus which cannot fail to be received at a well-attended and well-organized medical meeting, is absolutely necessary to keep a man abreast of the times. It is not so much a duty as a necessity for a practising physician, if he wishes to continue to keep up his work, even to the level of the average current of progress, that he be in some way affiliated with a medical organization and attend its meetings.

It becomes all the more the duty of those who have something to do with the organization of medical societies to see that they make the meetings of such a character as will attract the members and make them feel that there is something to be gained in listening, and in speech, which is not found in the solitary perusal of the reports of the following week.

The problem of how to make a medical society attractive in this way, how to make it compete

<sup>1</sup> Delivered before the New York Academy of Medicine.

successfully with the medical journals, to secure in its transactions that kind of activity which cannot be put exactly into print, is the problem which has grown more serious of late years. With so many pressing duties and interesting occasions presented in a city like New York, the securing of large society meetings has become almost an art of itself, or we may say, a special kind of executive business. If securing such big audiences were one of the objects of the Academy, I would almost advise the hiring of a paid and specially skilled secretary to attend to this function, one who would see that the reader of a paper should read the right kind of a paper, and should have the right kind of men to respond to it, and have a sufficient audience, both critical and sympathetic, to justify the work expended. Only those who have had the experience know the difficulty of accomplishing all these ends.

It is, however, in my opinion, not the function of the Academy of Medicine to try and do this thing; or, at least, it should only be a secondary consideration. My hope and ambition for the academy would be rather to have it understood that its general meetings furnish a forum where those who have made some valuable observations or research, or have some special and useful experience, can present these things for record and criticism. I should like to have it a place in which a man who has accumulated some definite results of his work could come and report this, perhaps only in some brief memorandum, the details and larger substance of the paper to be published later. It should be the forum for the announcement, in brief, of discoveries made, illuminating clinical cases or pathological observations, notes on laboratory work, and on practical things of all the special branches of medicine. This should be the particular function of our general meetings; so far as it is practicable. Symposia on special topics are most useful, and are provided for by the sectional meetings, which take up nearly half of our time. It seems to me that we could add to the value of this sectional work by at times combining one or two sections and having them present some topic in common. Thus, general surgery and gynecology would be the better for occasionally working and discussing questions together, and the same, it seems, might be true of otology, rhinology and ophthalmology.

There is a certain class of medical literature which ought, as a rule, to go directly to the medical journals. I refer to the formal addresses and discourses, and the long monographic papers. I do not think it is sufficiently realized how entirely doctors have outgrown the habit of going to listen to addresses. Some of the best and most carefully prepared discourses of this class have been delivered to almost empty houses, and there is a reason for this which we cannot controvert. Addresses, to be sure, are necessary for the emphasizing of certain special occasions, and they cannot be done away with. But

then their chief value should be literary, oratorical and generally educational. It is indeed a delight and a benison to listen to an eloquent man, and I would not discourage this form of art. But I would almost advocate a law forbidding the introduction into active work of medical organizations of formal addresses or monographic papers which are to appear in print later. It is only when one has something momentous to prove, and must prove it in order to get out criticism, that such long articles are justifiable. There are few single observations or things for record that cannot be expressed in twenty minutes.

These facts are being rather quickly appreciated in our sections and our societies. A time-limit is always a part of the by-laws, but I do not find that medical men yet understand that time-limits may be reduced still further by a study and proper use of the art of language.

#### THE ART OF WRITING MEDICAL PAPERS.

This leads me to another observation, which I wish to emphasize, and that is, the importance of a speaker or writer taking always some pains, some special pains indeed, to present what he has to say in a lucid, well-balanced, and concise manner. I do not insist on the necessity for fine methods of expression, for elaborate English, or finished and artistic phrases, but only, that when the medical writer has a subject in hand, he feels bound to express it (with the needs of his audience in mind) in a way which avoids all that is unnecessary and brings out his point as quickly and as emphatically as possible. The paper read should often be different from the paper printed in form and length. By remembering this, it becomes possible to have a number of topics brought forward for criticism, and make the evening both enlivening and profitable.

There has been suggested of late the adoption of a "marking system" for Genius, and it is possible that we might, with advantage, suggest a marking system for medical papers, which could be consulted by the writer, and not necessarily applied by the executive officer of the organization to which he presents himself. Thus, supposing that we take the following characteristics: (1) Originality of observation, this might be given marks from 0 up to 75; (2) laboriousness of research, 0 to 25; (3) interest of the observation, from rarity, 0 to 20; (4) interest of the observation for its practical medical value, 0 to 30; (5) scholastic, bibliographic and historical value, 0 to 25; (6) literary form and lucid brevity of presentation, 0 to 25.

These headings cover the important points upon which the value of a paper would be estimated.

Applying these canons to a recent notable article in a medical weekly, I find: 1, 40; 2, 25; 4, 20. Total, 85. This, on a scale of 100, represents a very high mark and is what the paper deserved.

It is my aim, then, to show that the medical



profession, in view of an increasing prolificness of its work, in the matter of articles written and read, and in view of the increased number of medical societies, and the demands put upon busy men, must take some measures for its self-protection, and these consist in abolishing some of the modes of procedure which have been utilized in the past, and have descended to us by tradition. Next, that the medical profession learn that unless it wishes to be swamped by the exuberance of its own fertility, it must learn to master the art of presenting what is desired to record with accuracy, clearness and dispatch.

#### THE PROPORTIONATE INTEREST OF MEDICINE AND ITS SPECIALTIES.

Another question, which comes with special importance before an organization such as this, is the proportionate attention which should be given to the departments of medicine. The New York Academy has its general meetings and it has nine sections, representing nine different specialties. It will be interesting, I have thought, to find out, if possible, about the proportionate interest which medical men, in general, feel toward these different branches, and I have taken three of the prominent medical weeklies here in this city and the *British Medical Journal*, of London, and gone over all the original articles published in them during the last year. There were about 1,000 original articles published in these weeklies in 1903. I have assigned these articles to the different general and special branches of Medicine and Surgery. Without claiming any great degree of accuracy for the results, it seems to me that they show fairly well the varying degree of interest shown by general readers in the different branches. Thus, out of 663 articles published in this city in 1903, a quarter of them were devoted to subjects of internal medicine; a little less than one-quarter to general surgical subjects, including orthopedic and rectal surgery. Neurology and psychiatry come next, with 8 per cent.; genito-urinary surgery, 6 per cent.; obstetrics and gynecology, 6 per cent.; pathology and bacteriology, 5 per cent.; physiology and physiological chemistry, 3 per cent.; laryngology, 5 per cent.; ophthalmology, 5 per cent.; hygiene, climate and tropical diseases, preventive medicine, about 6 per cent.; X-ray, radium and light therapeutics, 6 per cent.; otology, 2 per cent.; government, railway and insurance service, 1 per cent.

I wished to find out whether the relative interest in these different branches was the same in this country that it was in Great Britain; therefore I analyzed the 433 British articles in the same way. The results were nearly the same, with two or three important exceptions: General surgery ranks in Great Britain considerably higher than internal medicine, in the proportion of 100 to 80. Pathology, bacteriology and general laboratory research seem to excite almost twice as much interest in Great Britain as they

do in New York, there being 10 per cent. of the articles devoted to these subjects. Physiology and physiological chemistry are also very much more in evidence in Great Britain than here, in the proportion of about 4 per cent. for us to 7 per cent. with Great Britain. Naturally the subjects of hygiene, climate and tropical diseases also take a very much higher rank with the British. On the whole, it may be said that at least one-half of the articles which are published in our general medical journals, are devoted to subjects of general medicine and surgery. The other half is devoted to the laboratory sciences, and to the special branches of medicine in proportions ranging from 2 to 8 per cent. We do not need to fear, it seems to me, from these figures, that general medicine and surgery are being pushed aside by the special sciences, and it would seem to me that a fair conclusion to be drawn would be that in the meetings in this Academy somewhat less than one-half the time should be devoted to special subjects, when they are such as bring them in touch with general medicine or surgery, and that perhaps more than half the time should be given to those subjects that are particularly important to those engaged in general practice or in those branches of internal medicine and surgery which are really a part of it, such as pathology and bacteriology.

#### THE ACADEMY AND PUBLIC QUESTIONS.

The Academy has, during a large part of its history, had a great influence in matters of public health and preventive medicine. Dr. Fordyce Barker, in an address delivered on his inauguration as president, declared that the New York City Board of Health was the result of the work; was, in fact, the child of this Academy. This Board has grown to be so efficient and so effulgent a part of our municipal government, that it largely takes away from medical organizations the responsibility of watching and fostering local sanitary work. Perhaps this is why the Section on Public Health, which was once organized, and which thrived for a time, has been dropped.

While I do not feel that we as a body need now to take initiative, or be known as actively working for public health, and for all that belongs to State medicine, I do not think that we ought to be regarded as an advisory body of highest and last resort in matters of policy relating to all public medical questions not involving politics, from which latter we stand absolutely divorced.

But, in order to secure respect for our opinions and weight to our influence on these subjects, we will have to take a different course from that which is sometimes pursued by medical societies. We should, for example, be unalterably opposed to the practice of adopting resolutions in a public meeting, involving questions of expert knowledge, or requiring careful and exact investigation of facts, without such resolutions being submitted first to a committee of those particularly expert on the matters involved.

We have no section on public health, or State medicine, or medical economics, and perhaps we do not need one; but we might well consider the wisdom of having the council empowered to appoint a permanent committee on public health and medical economics. This committee should be a large one, and contain the best experts in sanitation, chemistry, pathology and bacteriology, as well as men practically familiar with sanitary and educational administration.

This committee, reporting to the council, and then through it, or directly to the Academy, would bring conclusions that would arouse serious attention, and if endorsed by the vote of the Fellows, they would not fail, I believe, to have convincing force with the public, and perhaps even with our politicians.

The resolutions of medical organizations have heretofore been, as a rule, acts of pitifully small influence upon men of affairs, and in so far as they relate to matters of medical aggrandizement, or of the particular interests of the medical man himself, they will always be received with some austerity by the public. But on medical questions that concern the general public good, the sentiment of organized medical men ought always to carry the greatest possible weight. The voice of this Academy should represent the judgment of the best elements of the profession in a great city which itself naturally includes in large numbers the best men from the country at large.

This voice should only be heard when the occasion is fit, and then it should speak after careful deliberation and on the advice of those most wise and expert. It would then have a finality that would work to the good of the public and the dignity of the Academy. It would be no trumpet-toned resolution, but the serious conclusions of wisdom, expertness and experience.

#### THE SECTIONS OF THE ACADEMY.

The policy of having special sections of the Academy has been justified by the very successful work of these organizations, and by the increase in medical activity they have brought about. It has been said that the meetings of some sections have been better attended and brought out better work than those of the general Academy itself; but as long as the work is done we will not quarrel over who does it. I believe in the value of the sections, and if they become so lively in interest, and so superior in importance as to outshine the Alma Mater, so be it. The fittest must survive; but I shall try not to have the obscuration occur in my régime. It seems wise to have just as many sections as the Fellows will support without too much urging. We cannot have too many medical societies, if they are good societies, even if we have to sell this building and build a bigger, as some day we must. It is a constant tendency of medical men to get into routine, to prescribe the same old rhubarb mixture, the same calomel tablet, or the quinine and iron. A routine means early de-

generation. People of fixed habits die early, even if the habits are not very bad. It is the medical society that keeps us going ahead. Therefore, the Academy need have no hesitation in organizing for as much work as it can possibly do.

Now I have shown that after medicine and surgery, the special branches attracting most articles into medical weeklies are those of neurology and psychiatry. These branches would be of larger interest still, if to them were added what used to be called forensic medicine. There is now no such distinct science, it having been split up among psychiatrists, chemists, bacteriologists, pathologists and lawyers. That part of it which may be called "legal psychiatry" belongs appropriately with a section on psychiatry.

There has been in the last few years a tremendous impetus to the study of psychiatry. The improved organization of our State hospitals, the establishment of laboratories, the increased interest in the problems of the alienist and their better and more scientific investigation, has really given birth to a new medical science. We have in and about New York many men active and interested in this branch, and the Academy might well furnish to them an opportunity for the presentation of their work. I shall recommend the consideration of the establishment, then, of a section on psychiatry and neurology. In doing this, I hope I am not under any personal bias as to the larger exploitation of those branches in which I am supposed to be more particularly interested.

The analysis which I have made of the articles presented in medical weeklies by American and British journals, respectively, suggests that we are hardly interested enough in the problems of pathology, physiology and physiological chemistry, or the laboratory sciences, as they are sometimes called. There are probably at present no problems in medicine so intricate, so fascinating, and so fundamentally important as these. To a certain extent it may be said that purely clinical medicine is worked out. What more can be observed of the common phenomena of the every day diseases? They appear, it is true, in ever-varying phases and combinations, and each particular case of acute fever or heart, kidney and lung trouble has features of its own. We must study and hear about them again and again. But to make radical progress we must go deeper and deeper into the biology of disease. The problems of metabolism, of immunity, of toxins, bacteria, ferments, internal secretions, and the finer chemical changes are those which promise to enlighten and help us most richly in the future. Internal medicine, with the laboratory sciences as its handmaid, is rapidly regaining its former high dignity and rising to the great prominence it deserves.

The question may well arise, therefore, whether we should not furnish a forum for the laboratory sciences. The Rockefeller Institute cannot work



all alone, and we should like to have it and the several State and college laboratories put themselves in touch with the working physician by presenting some of their results to us here. I shall suggest the organization of a section on the laboratory sciences, either independent or in connection with internal medicine.

I am not afraid of creating too many sections, but if it is considered unwise to expand numerically, there is the possibility of combining some of the sections already established, provided this seems entirely welcome to the members. As I look over the long programs of these sections and note their work, I confess it may be found unwise and unnecessary. But, as neurology and psychiatry consent to lie down together, why might not otology, rhinology and ophthalmology have some lines of union? It would give greater importance to the section and its officers, and would probably enlarge the point of view of all.

I present these questions with an entirely unbiased mind, and only desire that we do what will promote the effectiveness of the Academy and the harmonies of medical life and its larger work.

I must now draw my address to a close, lest I be accused of violating those canons of medical expression which I myself have just laid down. Perhaps I have already done this. There are certain conventions which we cannot at once do away with, however, and I have admitted that the addresses must occasionally be delivered in order to emphasize an opportunity or to lay down a policy.

In concluding, then, I wish to express the hope that during the coming year the Fellows will learn to feel more profoundly that the Academy is not merely a library and reading room, but is also an organization of men especially chosen to promote the science and art of medicine and public health; that these halls should be the forum for the effective exploitation of our work in curing the sick and seeking the causes of disease. And I should delight to find (for it is possible) that the records of the meetings of this Academy carried with them a history of the best achievements and most interesting activities of the profession.

Gentlemen, I have taken the honor you have given me with much genuine misgiving; for I felt that there were many who deserved it more and were better fitted for the task. But having had the laurel put upon my brow, I shall try and wear it as if it fitted some better conformation. I have the inspiration of the accomplishments of the past to help me; I am supported by an especially distinguished board of officers, who are devoted to the welfare of the Academy. I ask for your active support and confidence in order that we may work together for the continued success of this honorable organization and for the dignity and worth of the one as yet uncommercialized profession.

## PARTIALLY AFEBRILE ESTIVO-AUTUMNAL MALARIAL INFECTION HAVING ITS ORIGIN IN NEW YORK CITY.

BY J. L. POMEROY, M.D.,

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THROUGH the courtesy of Dr. Charles E. Quimby, I am enabled to report the following case from his wards at the City Hospital. At the meeting of the Pan-American Congress in 1901, Dr. C. N. B. Camac called attention to the fact of the presence in the State of New York of this extremely grave form of malaria, and presented a series of eight cases in which he was able to find the parasite. No reliable statistics on this question could then be found, and because of the fact that the comparatively harmless tertian parasite abounds in our Northern States, and also because the term malaria is made to cover a multitude of ignorance, it becomes an important question of prophylaxis to prevent the spread of this dangerous tropical type of infection. The question of quarantine for such cases also becomes of paramount interest, for through the intervention of the mosquito this ofttime fatal form of malaria may be quite widely disseminated.

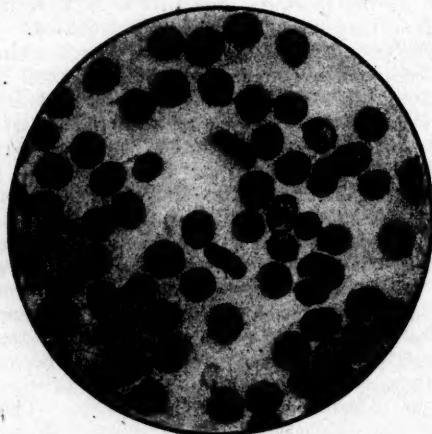
The patient, B. G., aged forty-one years, single, an Irishman by birth, entered the hospital Nov. 5, 1904. He gave his address as Pearl Street, and stated that he had not been outside of the city since fifteen years ago, when he emigrated to America. Occupation longshoreman. His regular work was unloading vessels from all parts of the world. His family history is negative. His habits are good. He does not use tobacco; takes two or three whiskies a day, always in moderation. Measles and scarlet fever in childhood, otherwise negative. Denies venereal infection. Save for his present illness lasting over a period of four years, he has not been sick.

**Present Illness.**—During the fall of 1900 he began to suffer from chills and sweats. This attack lasted some three weeks, during which time he was bedridden and his skin became yellow. His physician told him he had malaria. Recovery was slow, and he did not regain his former strength. From time to time he would have chills followed by sweats, but as they were so irregular he did not return to his doctor. He states that he used some pills given him, taking one three times daily. Following a course of pills he would improve. For periods of several months he would feel stronger, but his loss in weight became quite apparent. Finally, three weeks ago, the chills and sweats recurred with renewed severity for the first time since June last. While they were very irregular they occurred some time during the hours of 5 A.M. to 9 P.M.

**Physical Examination.**—Patient was a man of large frame in whom emaciation was very apparent. His cheeks and eyeballs were sunken, the color of his skin sallow, and his general musculature flabby and wasted. He was very weak and compelled to stay in bed. The tongue was flabby,

covered with yellowish fur, and the mucous membranes were very pale. Chest poorly developed, expansion poor, though equal on either side. Left infraclavicular space rather flat. Over left apex behind were a few persistent moist râles, but there were no other signs obtained. At the bases on either sides were a few sibilant râles. His abdomen was flat, muscle-wall flabby, very little subcutaneous fat present, and skin was loose and wrinkled. The liver was palpable about six centimeters below the right costal margin, edge firm and smooth. Spleen was easily palpable and was also quite hard. Examination of his heart revealed a soft-blowing systolic murmur at the apex, not transmitted to axilla, but heard over the pulmonic area. The second aortic was accentuated, the first sound was clear; there was no enlargement beyond nipple line.

Blood pressure taken on entrance with Riva-Rocci instrument (Janeway's modification) gave a reading of 130 m.m. of mercury in both arms; pulse 90, respiration 22, temperature 99.6° F. Knee-jerks were normal, muscles of calves soft and flabby.



Estivo-Autumnal Malaria.

He had scarcely any appetite on entering, and suffered from a slight cough with a mucopurulent expectoration. Sputum examinations at various times were negative for tubercle bacilli. His bowels were very costive, he was extremely restless, and during the evening of his entrance he had a violent chill followed by a profuse sweat, but his temperature was normal, both before and after chill, not going above 99° F. These chills proved very irregular, appearing often without being followed by a definite sweat, and again the reverse would be the case.

Examination of his blood immediately upon entrance showed the presence of beautiful crescentic and ovoid bodies, which were always extracellular. Examinations made during the afternoon showed a preponderance of the ovoid forms. The crescentic bodies were always deeply pigmented. They seemed to be more numerous

during the forenoon. No other variety of Plasmodia was found. Slides were taken every two hours for a period of two days to determine this; Jenner's stain was used in all examinations. White blood count 7,000. The urine report showed the specific gravity to be 1.020, color amber, clear, faint traces of albumin and no sugar. Microscopical report after centrifuging revealed a few granular casts. No pus or blood cells being found.

Shortly after admission the patient was placed upon quinine sulphate in perforated capsules, grains fifteen, every four hours, and one-half ounce of Warburg's tincture, before meals, to stimulate his appetite. Saline catharsis was used to relieve his constipation and to increase elimination. After twenty hours he felt much better; his sweats became less frequent, a marked increase in strength and appetite was noticeable, and his temperature, which had previously remained normal, now ran as high as 100.2° F. In a few days more he was able to get up, and one week after the treatment was instituted he was able to be removed to his home. Examination of his blood now proved negative for malarial plasmodia.

The points of interest in this case are: (1) An estivo-autumnal infection having its origin in New York City. (2) Chills and sweats without temperature—the latter appearing only when quinine had been administered, and then not rising above 100.2° F.

#### SUMMER INFANT MORTALITY.<sup>1</sup>

BY LOUIS C. AGER, M.D.,  
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ALTHOUGH this paper is to deal more particularly with a study of the infant mortality of the present summer in New York City, the subject can be more intelligibly treated by a brief review of past conditions, with a short report of what has been already accomplished in the way of improvement.

Although statistics are apt to be very uninteresting to all but the compiler, I will venture to present a large part of this paper in that form, —bearing in mind the adage that "while figures cannot lie, liars can figure."

In the first place we are all aware, in a general way, that the death-rate in the first years of life is much higher than in later years. Unfortunately, when we happen to give any thought to the subject, we are apt to look upon it as one of the things that cannot be helped. We give altogether too much weight to the survival-of-the-fittest idea,—considering it merely as one of the many examples of nature's superfluous fertility. This feeling is particularly common among those who come much in contact with the tenement house population of our large cities. The first thought is not, "why do so many die?" but "how do so many live?" This fatalistic mental

<sup>1</sup> Read before the New York State Medical Association, October 19, 1904.



attitude has undoubtedly hindered greatly the progress that we ought to expect along this line.

Taking at random the vital statistics of Brooklyn for the year ending September 30, 1903, we find that the total number of deaths was over 21,000. Of this number over one-fifth were under one year of age, and nearly one-third were under five years. Furthermore, of the 7,000 deaths in children under five years, one-fifth were caused by diarrheal diseases in children under two years, and of these about two-thirds occurred during July, August and September.

Is it not preposterous, with these figures in mind, to say that it cannot be helped? Is it not the duty of the members of the medical profession to take a more aggressive attitude on this subject and to point out to the public the economic value of sanitary and hygienic improvements in the care of our infant population? Is it not a sure proof of laziness or worse on the part of the physician who says the fault is all with the parents,—that they will not listen to advice and will not carry out instructions?

Turning to the other side of the question, What has been accomplished in the past few years in the way of improvement,—the figures for the old City of New York are presented in Table No. IV.

Considerable time might be profitably devoted to the study of these figures. They certainly present a record of improvement that any municipality might be proud of. We are all aware of the facts shown in the first column, the marked decrease in the general death-rate. But the improvement shown in columns five and seven is of even greater interest. Column five shows that while 45 per cent. of the deaths in 1881 were in children under five years of age, in 1897, only 39 per cent. were under five years. Column seven shows further that while in 1881 21 per cent. of the deaths under five years were due to diarrheal diseases, in 1897 only 15 per cent were due to that cause. With this improvement in mind, some will doubtless wonder why I should speak so emphatically at the beginning of this paper. If New York has done so well, why make a plea for more energetic work in the future?

If, on the other hand, we put out of mind the past improvement and merely consider the facts presented in Table No. IVa, do we not see not only room for further improvement, but also good reason to expect very appreciable results from properly directed and concerted efforts? These tables show an apparent increase in diarrheal mortality since consolidation, for the reason that at that time there was a change in classification, by which more diseases are included under the term diarrheal diseases than previously.

Here we see presented statistics for the past six years, and these are not, after all, very much to be proud of. In the first place there has been no diminution in the per cent. of deaths under

five years. The per cent. of deaths under five years from diarrheal diseases does indeed show a change from 27 per cent. of all deaths under five years to only 21 per cent. Unfortunately the appended figures for the summer months of 1902, 1903 and 1904 show that the summer just passed was quite the worst of the three. To present the facts in a few words the situation in Greater New York is as follows: (1) Since 1898 there has been practically no improvement in the infant mortality; (2) The deaths under five years constitute 35 per cent. of all deaths, and of these over 20 per cent. are due to diarrheal diseases. Now, there may be a wide difference of opinion among physicians as to the extent to which summer diarrheal diseases in children may be classed as preventable. The physician who still accepts "dentition" as a reasonable cause of death on a death certificate will perhaps be satisfied with things as they are. On the other hand, if we accept the logical conclusion from known facts that summer diarrheas are essentially infectious diseases, must we not go one step further and admit that they are, theoretically at least, just as much in the category of preventable diseases as typhoid, for example?

Before entering further, however, into the question of future preventability, allow me to present a few suggestions as to the cause of the very gratifying improvement in New York and Brooklyn previous to 1898, as shown in Table I, and the apparent lack of improvement since that date. The first question can be passed over very briefly. A large part of the infant mortality in the earlier days was due to easily removable causes, but those causes were outside the domain of the individual citizen, and may be summarized in general under the two heads: Lack of any adequate supervision of the milk supply, and lack of any adequate sanitary regulation in regard to tenement houses. As soon as these two matters were dealt with systematically, there resulted an exceedingly gratifying improvement in the summer infant mortality. But after a period of years the most manifest results of these things were accomplished and the infant mortality curve ceased to descend. This does not imply that the present sanitary condition is ideal, or that our milk supply is perfect, but undoubtedly the more radical changes and the more marked improvements have already been accomplished. It is probably true in some respects, in the condition of the streets, for example, that New York is much worse from a sanitary point of view than it was a year ago. Theoretically, at least, the cleanliness of the streets must have a more marked effect upon infant mortality than upon the total death-rate: first, because the streets are the children's play grounds, and second, because the children come in so much closer contact with Mother Earth than do their parents.

Investigations made in Manhattan a few years ago show that the number of bacteria in street air depends not only upon the cleanliness of the street, but also upon the height of the air above

the pavement. Plates exposed on the curb developed several times as many organisms as those exposed at a height of six feet. Children on the street and in baby carriages are therefore much more likely to inhale dust-borne organisms, and their methods of play bring the organisms in the soil in direct contact with their hands, faces and mouths. The sooner the public realizes that smooth clean pavements are an actual economy

that the community has done or must do for the individual. The future improvements must come very largely from the things that the individual can do for himself. It is at present possible in New York for parents even in very moderate circumstances to care properly and successfully for infants and children.

TABLE I.—Number of Deaths from Diarrheal Diseases in Children Under Five Years of Age Per 100,000 of Total Population.

Year.	Brooklyn.	Manhattan.
1881 .....	257	297
1882 .....	264	271
1883 .....	214	219
1884 .....	234	232
1885 .....	232	205
1886 .....	163	208
1887 .....	180	219
1888 .....	190	200
1889 .....	148	200
1890 .....	163	185
1891 .....	179	189
1892 .....	177	173
1893 .....	168	164
1894 .....	151	149
1895 .....	159	151
1896 .....	132	133
1897 .....	114	118
1898 .....	131	121

in human lives, the sooner will the infant mortality decrease.

As regards the milk supply, the improvements in the past twenty-five years are too familiar to require recapitulation here. At the present time milk of very good quality can be obtained for eight cents a quart. It does not, of course, come up to the certified milk standard, and during

TABLE II.—New Classification.

1898 .....	224	191
1899 .....	180	142
1900 .....	196	160
1901 .....	194	161

the warm weather it must be Pasteurized for infant feeding. As in the case of all other food products, the consumer who is most particular with his dealer gets the best milk, while the consumer who does not drink milk himself, and is therefore not personally interested in the milk that comes to his house, will get the milk from

TABLE III.

	Brooklyn.	Manhattan.
Population, 1902 .....	1,166,582	1,850,093
Population under five years ....	28,961	46,796
Percentage under five years ....	2.48	2.53

the poorer dairy. The greatest value of the work of the milk commissions will be in educating the public to demand a cleaner grade of milk. In that way the improvements in production and in the rapidity of delivery suggested by the milk commissions will be introduced into all dairies.

All these things so far referred to are things

TABLE IV.—New York City.

Year.	Death rate.	Total deaths.	Deaths under five years.	Percentage of total under five years.	Diar. under five years.	Percentage of total deaths under five years.
1881...	31.04	38,624	17,737	.45	3,710	.21
1882...	29.61	37,924	17,520	.46	3,479	.19
1883...	25.80	34,011	13,856	.40	2,897	.19
1884...	25.82	35,034	15,272	.43	3,160	.20
1885...	25.55	35,682	15,267	.42	2,892	.19
1886...	25.99	37,351	16,121	.43	2,990	.18
1887...	26.32	38,933	16,766	.42	3,252	.19
1888...	26.39	40,175	17,356	.43	3,051	.18
1889...	25.32	39,679	17,152	.43	3,135	.18
1890...	24.87	40,173	16,302	.40	2,997	.18
1891...	26.31	43,659	18,224	.41	3,191	.17
1892...	25.95	44,329	18,684	.42	3,162	.17
1893...	25.30	44,486	17,865	.40	2,898	.16
1894...	22.76	41,175	17,558	.42	2,708	.15
1895...	23.18	43,420	18,221	.42	2,839	.15
1896...	21.84	41,622	16,807	.40	2,544	.15
1897...	20.03	38,877	15,395	.39	2,296	.15

For the study of the question of ways and means for future improvements, we are fortunate in having side by side the work done and its results in the Boroughs of Brooklyn and Manhattan, and as a Brooklynite I regret to state that

TABLE IVA.—Greater New York.

Year.	Death rate.	Total deaths.	Deaths under five years.	Percentage of total under five years.	Diar. under five years.	Percentage of total deaths under five years.
1898...	20.26	66,294	23,499	.35	6,442	.27
1899...	19.47	65,343	23,801	.36	5,127	.21
1900...	20.57	70,872	25,836	.36	5,747	.22
1901...	20.02	70,814	24,256	.34	6,071	.25
1902...	18.75	68,112	24,388	.35	5,190	.21

Deaths from Diarrheal Diseases 17 Summer Weeks, Brooklyn and Manhattan.

1902...	3,201
1903...	2,735
1904...	3,810

Brooklyn must be cited as an example of how not to do it.

The peculiar facts relating to infant mortality in Brooklyn were first called to my attention in the spring of 1902, and my first study of the subject was published in the *Brooklyn Medical*



*Journal* for February, 1903. Since that time I have given considerable time to the subject and have not found occasion materially to change my views as to the probable cause of the unfortunate conditions brought to our attention every

on the one side the infants, on the other the infants' surroundings. Looked at in this way, the problem resolves itself into the question, where, among these two factors, lies the difference between Brooklyn and Manhattan?

TABLE V.—Death Rate Per 100,000 of Population, Diarrheal Diseases, All Ages, 1900.

New York County.....	170
Kings County.....	209
Queens County.....	216
Richmond County.....	228

week during the summer in the Health Department Bulletins.

Some of the statistics are presented in the tables. Table I, to which reference has already

TABLE VI.—Ages.

Under 1 month .....	10
1 to 2 months .....	15
2 to 4 months .....	31
4 to 6 months .....	61
6 to 9 months .....	52
9 to 12 months .....	42
12 to 15 months .....	15
15 to 18 months .....	13
18 to 24 months .....	11

been made, gives the comparative infant death rate for Brooklyn and Manhattan for the past twenty-three years. This shows that up to 1891 the difference, such as it was, was in favor of

TABLE VII.—Dwellings.

Tenements: Poor, 97; Fair, 58; Good, 45	200
Private houses .....	36
Institutions .....	14

Brooklyn. Since that time, however, with a few exceptions, the mortality in Brooklyn has been much worse than in Manhattan.

The conditions prevailing during the last three years are more clearly presented by graphic

TABLE VIII.—Analysis of Condensed Milk. Percentage by Weight.

Fat .....	9.6
Casein .....	8.5
Milk Sugar .....	11.5
Cane Sugar .....	44.0
Specific gravity .....	1.28

charts. In these the most noticeable fact is the difference between the first of the summer and the last. As soon as the hot weather sets in, there is a much more rapid rise in in-

TABLE IX.—Percentages—Condensed Milk Mixture and Human Milk.

Fat .....	.85	4.0
Casein .....	.75	1.5
Milk Sugar .....	1.02	7.0
Cane Sugar .....	2.87	

fant mortality than in Manhattan. After a few weeks the rate in Brooklyn comes down and meets or even crosses the Manhattan rate. This result is the product of two groups of factors,

1. Table III shows that the percentage of the population under five years of age is greater in Manhattan than in Brooklyn. The greater infant death-rate in Brooklyn is therefore not due to the presence of a larger infant population, as was at one time suggested.

2. Climatic conditions must be very nearly identical in the two boroughs, with the advantage, so far as there is any, in favor of Brooklyn's summer climate.

The logical conclusion seems to be that there must be some difference in the care that the children receive. We are all aware, I presume, of the fact that at the first blast of summer heat there is a quick harvest of those little ones that have been barely able to keep their hold on life under more favorable weather conditions. After these are gone, the death-rate settles down to its daily average among the sturdier children, who from time to time succumb to the various forms of acute hot-weather infections. There must be therefore in Brooklyn, a larger proportion of weaklings than in Manhattan. As other causes are excluded, it follows that this is due to a difference in the nutrition of Brooklyn babies,—a difference in the method of feeding and caring for them. This, at first, seems absurd, but a careful study of the statistics from the two boroughs proves this to be the case. In the report of the work of the Rockefeller Institute by Drs. Park and Holt, published in the 1903 Report of the New York Health Department and elsewhere, Tables I and II show that about one-quarter of the bottle-fed infants under observation were fed on condensed milk. In the statistics that have been collected during the past summer in connection with the milk distribution of the Brooklyn Children's Aid Society, I find that from one-half to three-quarters of the bottle-fed babies were fed on condensed milk. Two years ago, in investigating the deaths of 250 infants from diarrheal diseases in Brooklyn, I found that 60 per cent. had been fed on condensed milk, while only 27 per cent. of the fatal cases in Manhattan had been fed in that way. Drs. Park and Holt say of this subject:

"The results with condensed milk can hardly be attributed to the bacteria, inasmuch as it was almost invariably prepared with boiled water, and contained relatively a small number of microorganisms before heating. These children were often apparently in good condition until attacked with acute disease, when they offered but little resistance, and seemed to succumb more quickly than any other class of patients. In one family three healthy infants, triplets, five months old, were taken sick on the same day with vomiting and diarrhea; one died within twenty-four hours, one within two days, and the third within a week. A bacteriological examination of the prepared

milk remained in one bottle showed nothing noteworthy."

It would be a waste of time for all concerned for me to enter into a discussion of this iniquitous method of infant feeding at this time. The proper way to feed artificially an infant of normal development can be learned from any text-book. There can be no doubt that at least one-half of the infant mortality is due to the improper feeding of children that start in life with a normal stomach. A comparison of the composition of the average condensed milk mixture with that of normal human milk is found in Table IX.

This difference in infant feeding in the two boroughs is of interest, however, in another way. It indicates a fundamental error somewhere in the education of the Brooklyn mothers. How does it happen that there is this difference in two parts of the same city? There can be but one answer, The physicians must be to a very large extent responsible for it, and only to the extent that they condemn the practice can it be eradicated. It is just here that the difference between conditions in Brooklyn and Manhattan is found. There have been in Manhattan those to teach publicly and emphatically the proper methods of infant feeding, and also those to undertake the work of supplying to all willing to use it the proper food. Brooklyn, on the other hand, has not been so fortunate in her supply of medical and financial philanthropists. There has never been any free ice distribution in that borough, and there has never been any general distribution of Pasteurized or modified milk. Each summer the Children's Aid Society distributes as far as its funds will permit, modified milk to sick babies, but only on a physician's order. Moreover, a nominal charge is made for the milk unless the physician certifies that the applicant is unable to pay. Now the proper feeding of a greater or less number of infants is a very small part of the good that is accomplished by this work. The great gain is in the education of the mothers, not only the mothers of the babies fed, but also all the other mothers that see the results. The brief suggestions in regard to the general care of infants that mothers receive at the distributing stations are of the greatest value in a home of the poorer tenement class. I am firmly convinced that these facts entirely explain the difference in the infant mortality in Brooklyn and Manhattan.

*The Remedy.*—A realization of the cause at once suggests the remedy. We must educate the parents. Individually we can do a great deal in our contact with them. Collectively we can do even more by bringing the matter to the attention of those who are able and willing to give the financial aid required.

The details of such work are simple, and experience shows that its success is assured. It is not an expensive thing to feed properly a normal baby; expensive, that is, in money. The required expenditure is in time and brains. The

cynic will say that the tenement-house mother will not give the time and cannot give the brains. The cynic, however, has no place in the practice of medicine. Dr. Kerley says, and I think that those that have had the most experience will agree with him: "Our experience with thousands of tenement mothers justifies us in reaffirming that the fault and absence of good results rest more with the doctor than with the tenement mother. When printed and written directions are used and a pamphlet of instructions given to each mother, when she learns, as she will at the first visit, that the physician is personally interested in the welfare of her baby, she will, with very few exceptions, do her best, which is usually not bad."

The experiment tried by the Brooklyn Children's Aid Society during the past summer shows little that is new. Nevertheless it may be of interest as a practical move in the right direction. There were fourteen distributing stations established in various parts of the city each in charge of a matron. The matron, in addition to giving out the milk, was expected to visit the homes and to make whatever suggestions seemed advisable in regard to the care of the children. In addition we had a volunteer corps of physicians to visit when needed. The value of the work accomplished in this way depends very largely upon the character of the matrons, as we found by sad experience in some cases. But it is quite extraordinary how much an energetic, tactful woman can accomplish in such a position. On account of the curious working of the human mind, the mothers would pay much more attention to advice from a friendly matron than to that from a physician. The feeling is strong that the doctor is to give medicine and that his duty ends there. At the close of the season we had a few brief talks to the mothers on the home modification of milk, the babies' clothes and similar subjects. At the stations where the work of the matrons had been well done there was an intelligent interest shown in the questions asked that was very encouraging.

The financial cost of work of this kind is comparatively slight, and we have learned much from this year's experience, particularly in regard to what the matrons can do. Another year more informal talks will be given, and the mothers will be induced in various ways to attend them.

#### SERUM DIAGNOSIS OF TYPHOID FEVER BY MEANS OF FICKER'S TYPHUS-DIAGNOSTICUM.<sup>1</sup>

BY JOHANNES H. M. A. VON TILING, M.D.,  
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You all recognize the importance of the Gruber-Widal reaction for the diagnosis of typhoid fever, but at the same time you realize with how many difficulties the carrying out of the test is connected—for the general practitioner. One needs a bacteriological laboratory with

<sup>1</sup> Read before the Semi-annual Meeting of the Dutchess County Medical Association, Poughkeepsie, October 26, 1904.



thermostat, virulent typhoid bacilli, sterile culture media, microscope, and last but not least, some practice and technical training. Therefore it is, as a rule, not possible for the practitioner to make personal use of the Gruber-Widal reaction in the way in which it has so far been customary to employ it.

Yet the aim and object of all experimenters should be to simplify all methods of investigation so that they may be made available to all practitioners; and in the Gruber-Widal agglutination test the use of Ficker's typhoid diagnosticum is certainly a great simplification.

Widal himself, as also before him Gruber and his collaborators, used to study the agglutination and immobilization of the bacilli both *with* the microscope and *without* it. Afterward it was more customary to employ the test with the microscope only; but lately several investigators, especially in Germany, have tried to simplify the method and they have again introduced the plan of carrying out the test without a microscope. Another important step forward has been the employment of bouillon culture with dead bacilli instead of living ones.

Again it was Widal who knew that the dead bacilli show the same details in agglutination as the living ones. He used for his experiments bouillon cultures in which the bacilli were killed by heat or by formalin.

During the last two years the use of bacilli which were killed by formalin or toluol, has again been repeatedly suggested. These methods, in which killed bacilli are employed, may be—just as the original Gruber-Widal reaction—carried out with or without a microscope, but the method recommended by Ficker depends only upon macroscopical observation. This Ficker's typhoid diagnosticum contains apparently ground bacilli, is absolutely sterile and looks turbid.

For the general practitioner, only this latter modification seems to be available, for, up to now, such a culture with bacilli killed by formalin one has to prepare oneself, and in the first place the practitioner is, as a rule, unable to do that; furthermore it is rather difficult to get a culture in which the bacilli are of proper virulence, in which they are not either too undergrown or too overgrown, and in which the specific gravity of the bouillon must nearly correspond to the specific gravity of the bacilli in order to keep the latter suspended.

During the last few weeks I have employed in a number of typhoid fever cases, and also as control tests in a few other cases, the method by Ficker, comparing it in each instance with the original Gruber-Widal test, and I have found the modification by Ficker to be absolutely reliable. The number of my tests is not yet very great, but since all others who have tried this test agree that the results are most satisfactory, I feel justified in recommending this modification with the typhoid diagnosticum according to Ficker.

For the diagnosis of typhoid fever in a more early stage of the disease, however, this test does not give better results than the original Gruber-Widal test.

This diagnostic fluid is manufactured and put on the market by Merck, of Darmstadt; this fact guarantees its always uniform quality. The entire apparatus needed to carry out the test is put together in a very convenient and handy way and the set can be obtained for \$1.85. The test is so simple that every physician will be able to make use of the reaction without difficulty, if only he follows the description that is added to each set and also takes into consideration the modification mentioned below.

According to Ficker, to carry out the test one must obtain from one to two c.c. of blood in the regular way by means of a cupping glass, which is then to be set aside in a cool place until the serum is separated. 0.1 c.c. of this serum which must be perfectly free from red blood corpuscles, is then mixed with 0.9 c.c. of sterile physiological salt solution. This diluted serum is then mixed with the diagnostic fluid in the proportions 1:5 and 1:10 in two of the little test tubes, which therefore now contain a serum dilution of 1:50 in one glass and 1:100 in the second. Then a third glass is filled with the diagnostic fluid alone. The fluid in these three test tubes appears now about equally turbid because of the bacilli in the diagnostic fluid. The reaction is positive if after from ten to twelve hours the fluid in the first or second glass begins to get clear, for in this case the bacilli clot together and sink to the bottom. Sometimes the reaction proves positive in a shorter time, sometimes it may take twenty hours, but if no clearing of the fluid occurs within this time, the test may be taken as negative. It is hardly necessary to add that all glasses and stoppers must be thoroughly cleansed and sterilized.

This test has the great advantage of convenience, but still there is one great inconvenience connected with it for patient and physician, that of obtaining the blood by means of a cupping glass. Therefore various propositions have been made to simplify the means of getting the blood and of obtaining the serum. Among other methods it has been recommended to make a rather deep wound and to let the blood run into a test tube or to get it from a vein with a hypodermic syringe and to let it clot in the latter. However, all these modifications do not appear to me to be very ideal for the general practitioner, especially in the country, since one must, without disturbing the specimen, wait for the clotting of the blood and the separating of the serum. For this reason I have tried to make the test by catching, from a small finger wound, made by a needle prick, a few drops of blood either on a glass slide or still more conveniently on a piece of filter paper; then I have let it dry and afterward in the laboratory dissolved it with normal salt solution in the proportion

1:10. This dilution I have mixed in the required way (1:5 and 1:10) with the diagnostic fluid, and the result was most satisfactory. Naturally the fluid, under these circumstances looks reddish, but in it the whitish flocks of agglutinated bacilli stand out very clearly, and the positive result is most easy to distinguish.

Finally I wish to say a few words about those cases in which the Gruber-Widal reaction proves negative, while all symptoms tend to the diagnosis of typhoid fever. Most of these cases probably are the so-called paratyphoid fever, caused by one of the group of paratyphoid bacilli. The serum of these patients does not agglutinate the typhoid bacilli but does agglutinate the corresponding paratyphoid bacilli. Therefore I have written to Merck & Co., and asked them to prepare in addition to the typhoid diagnosticum a paratyphoid diagnosticum from the paratyphoid bacilli, A and B, as the two types of this bacillus are called.<sup>1</sup> Then in those cases where the Gruber-Widal reaction proves negative, one must try to obtain a positive result with the paratyphoid fever diagnosticum.

#### INFLAMMATORY STRICTURE OF THE RECTUM.<sup>2</sup>

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REALIZING that all that might be written about rectal stricture would require the space occupied by a goodly sized book, in this paper I will treat only of the more common varieties, and will endeavor to bring out some practical points in their management.

Under the head of "Inflammatory Stricture" must be grouped the great mass of rectal strictures, including the simple, tuberculous, dysenteric, syphilitic, etc. The exact etiology of stricture of the rectum is still an unsettled question. It is doubtful if tuberculosis and dysentery can be accepted as causes. Tuttle thinks tuberculosis quite a frequent cause, but believes it doubtful if dysentery ever is, while other authors claim dysentery as being a cause, beyond question, and doubt that tuberculosis ever is. Tuberculosis of the rectum being very rarely if ever primary, and the disinclination of tuberculous ulcers to heal explains why it so seldom occurs as an etiological factor. Allingham and Matthews both claim that fifty per cent. of all rectal strictures seen in their practice were of syphilitic origin. Other authors differ, some putting the percentage caused by syphilis higher and some lower; but this can be said in regard to the etiology—any cause that can produce a diffuse inflammation of the rectal wall must be accepted as an etiological factor, whether it be syphilitic, tuberculous, dysenteric, infectious, venereal or traumatic.

<sup>1</sup> I have since heard that Merck & Co. have brought on the market the Paratyphoid Diagnostic Fluid.

<sup>2</sup> Read before the Academy of Medicine, Kansas City, Mo., October 22, 1904.

This complaint is very common among the colored race. I have seen and operated upon a great many negroes in my clinic, and with few exceptions they all gave histories of syphilis, many of them having other syphilitic lesions or scars. Two-thirds of the cases occur in women. This is not hard to understand when we remember that the proximity of the female genitalia to the rectum subjects the latter to pressure from the enlarged, displaced and pregnant uterus or uterine tumors.

In studying the pathology of this disease, three places present themselves for consideration; the strictured portion itself, the portion of the bowel above, and that portion below it. The stricture appears as a bluish-white cicatrix, glistening, firm to the touch and of the consistency of a true cicatrix, with a great amount of connective tissue formation. Above the stricture the gut is dilated and the walls thinned, while it is narrowed below the stricture. Two different types of ulcer may be present. The kind present below the seat of constriction is generally of the type of the disease that produces the stricture, while above the stricture they will occur as simple infectious ulcers. Fistula is a common complication. Allingham says that fistulae generally open below the stricture, but that is different from my observation, as in my cases the majority open above the stricture. It is generally acknowledged by all authorities that ulceration is the primary starting point of rectal stricture, independent of the original cause of the ulcers. If the ulcer is not extensive, its presence may not be noticed by the patient, and in the course of time it heals. Later there is an infiltration and deposit of plastic material in the walls of the gut, eventually to be followed by diminution in the lumen of the bowel.

The symptoms of stricture are varied, depending upon the amount of constriction present. Quite frequently it is unnoticed until obstruction to the fecal current occurs. One of the first symptoms noticed is constipation. At first this is not severe, but becomes more so from day to day; the patient is compelled to take enormous doses of cathartics to produce an evacuation, and it requires a long time, and much straining for the bowels to be evacuated. As the disease progresses constipation alternates with diarrhea, the patient sometimes spending the greater part of his time at stool. There is a constant feeling as though the bowels were never emptied, but that something is present which should be forced out. There will be a constant discharge of pus and blood. The patient's general health suffers. He loses flesh and sometimes presents an appearance of suffering from a serious systemic disease. Too much credence should not be placed upon the shape of the feces for unless the stricture is very low down in the rectum the shape of the feces may be formed by the external sphincter muscle. When the stricture is situated within four inches of the anus the diagnosis can be very easily made by the finger. Diagnosis by bougie is apt to be



very unreliable as bougies may double on themselves; and if the wall of the gut is very thin it may be perforated by having the bougie trust through it. If the stricture is located too high up to be reached by the finger, the sigmoidoscope is the best instrument of precision to determine its existence. If the patient is in the proper position, a stricture located within twelve or fourteen inches of the anus can be seen and its size, etc., determined. Should the rectal walls be very much thickened, however, it may be impossible to inflate them. Should the symptoms of extreme, continuous constipation, passage of pus and blood, etc., be present, and yet the diagnosis of stricture be difficult or impossible by the hand or sigmoidoscope, an exploratory laparotomy would be justifiable.

As regards the prognosis of inflammatory stricture, it is well for the surgeon to inform his patient at the beginning that a permanent cure is impossible. By palliative treatment, operations, etc., the stricture can be kept well under control, the patient made comfortable and life prolonged indefinitely; but it is the duty of the surgeon to inform the patient that if neglected the stricture will be as fatal to life as though it were malignant. It is a favorite method with irregular practitioners to promise a patient afflicted with rectal stricture a permanent cure. After the operation the patient is delighted with his improved condition. His discharge lessens or ceases. He now has painless, normal-sized stools without straining, where before he had no evacuation without cathartics, enemas and much straining and pain. He accepts the word of the irregular that he is cured permanently, pays him his fee and gladly furnishes him with a testimonial with permission to print it if desired in the daily paper. As time rolls around, he finds his old trouble returning, and if he does not seek treatment his condition becomes worse than before the operation. He goes back to his irregular friend, and is informed that this is another condition than that for which he was operated upon. Needless to say that his fee is not returned, and his testimonial continues to be printed.

The treatment is either palliative or operative. In the palliative treatment the diet should be concentrated and nourishing. The stools should be rendered soft by laxatives. Injections of hot saline solution will help to relieve the pain and lessen the discharge. While mercury and iodides are recommended to produce absorption of the stricture, they are of very little value, as most of these cases do not come under observation until the stricture has been forming a long while and the cicatrix is too firmly organized to be absorbed.

Treatment by dilatation is probably the most popular and the one most commonly resorted to. The dilatation may be either gradual or forcible. Many cases will be benefited and relieved by gradual dilatation, and this method of treatment is more popular than the forcible dilatation, as it is done without the use of an anesthetic. When

gradual dilatation is employed, no force at all should be used in introducing the bougie. One that will easily pass the stricture should first be introduced, and the size gradually increased until the size desired is reached. The patient should then be furnished with a bougie of the proper size and instructed to pass it occasionally the rest of his life. Kelsey recommends that the bougie be retained in the rectum for several hours, and if possible, all night. On the well-known surgical axiom that continued pressure produces absorption this seems to be sound advice if the continued pressure of the bougie did not produce irritation of other parts of the bowel. Should the stricture be of small caliber, and high up in the bowel, it may be impossible to introduce a bougie by ordinary methods. The proctoscope should then be inserted up to the point of stricture. Then with the aid of artificial light the opening in the stricture can be plainly seen, and the proper-sized bougie passed without danger of doing any damage to the rectal wall.

Forcible dilatation is a dangerous, unsurgical procedure, and should never be performed when it is possible to adopt any other measure. I have had no personal experience with treatment by electricity and therefore cannot tell of its efficacy. All proctologists of my acquaintance who have used it say that the results were not encouraging, and that they were compelled to adopt other methods of treatment. It would seem as though extirpation of the strictured portion of the bowel with anastomosis of the ends of the gut would be an ideal operation for this condition, but from statistics gathered of this mode of treatment, the stricture is very prone to recur at the site of the anastomosis and the condition of the patient is as bad if not worse than before the operation. This operation is mostly applicable when the stricture is in the upper part of the rectum or sigmoid flexure. The operation most generally recommended by text-books is that of proctotomy. This operation, when first introduced, was thought to be a radical cure for stricture, but like all other operations, it was found that without proper after treatment its curative properties were but temporary.

Internal proctotomy consists in making several incisions in the stricture. The incisions may be superficial or deep, as the case requires. Generally the anterior and lateral incisions are not as deep as the posterior. This operation is not as popular as it once was, as it invites sepsis, and abscesses and fistulae are quite apt to follow as sequelae. Matthews is a firm advocate of this operation, however, and says he has never had any unpleasant results following. I have performed it in a great many cases with satisfactory results, and yet, while I have never had any complications following afterward, I do not regard it as a good surgical procedure and am always worried about my patient for a few days after the operation, or until all danger of infection is past. In my own experience I have found external or

complete proctotomy the safest, simplest and most satisfactory operation for rectal stricture. This operation consists in introducing a blunt-pointed bistoury within the anus, passing it up the rectum until well within the line of constriction, then cutting through the stricture, dividing the sphincter muscles and all intervening tissue, back to the coccyx. The incision should be made exactly in the median line, where the sphincter muscles from either side meet, for as Tuttle has pointed out, the muscular fibers here do not decussate, and by this incision very few fibers are cut. Should there be any spurting vessels they should be ligated, but this is not often necessary; irrigation with hot water, followed by firm packing, will check all oozing. The rectum should be well irrigated daily with an antiseptic solution, and dressed by laying a strip of gauze within the wound. Bougies should be passed and the incision watched carefully to see that the external portion does not heal before the internal. I have performed this operation for rectal stricture more than any other, and results have been uniformly good. I pay particular attention to the preparatory treatment of these cases, aiming to get the rectum in as near an aseptic condition as possible before operating, the operation being performed under antiseptic measures and treated antiseptically afterward. Fortunately, the great majority of rectal strictures are within three inches of the anus, hence this operation can be performed in most cases.

Operations dealing directly with the stricture will be found inadequate and impossible in many cases, and a colostomy will have to be performed. Time is too short for me to enter into detail regarding colostomy, but the operator should use the gridiron incision and bring the gut between the oblique muscles and underneath the skin for a distance before opening upon the surface, so as to make as continent an artificial anus as possible, and if necessary a pad or truss can be worn over the bowel. Since the introduction of improved technic in the operation of colostomy, whereby the artificial anus takes on somewhat of a sphincteric action, life is made much more bearable to these patients than after the old operation where they had no control whatever over the fecal current.

Much has been left unsaid which I might say about this, to the proctologists at least, over-interesting subject, but for fear that the subject might not be as interesting to you as to myself I will close by citing three cases which have some peculiar features in connection with their trouble:

*Case I.*—Mr. F., aged forty years, German. Family history good; no history of syphilis. Consulted me October 2, 1902. Gave history of having had rectal trouble for sixteen years, during which time he had been operated upon four times for stricture of rectum. Examination revealed a stricture three inches up in the rectum, with a complete fistula, its internal opening being above the stricture and its external opening mid-

way between the coccyx and the anus. Patient complained of continual pain in the rectum, the pain being so severe that nothing could relieve it but morphine. Operation October 4, 1902. Anesthetic, ether. The fistula incised, the incision extending through both sphincters and the stricture. Portion of stricture removed for microscopical examination. Patient made a quick recovery from the operation, leaving the hospital in a few days. Was given a No. 12 Wales bougie to pass daily. Everything progressed favorably. The patient stopped the use of morphine and gained several pounds in weight. His color became much better and he resumed work at his trade. At the end of three months, the pain recurring, he was treated with the X-ray for a month, but without relief. February 26, 1903, five months after the first operation, he returned to me and said the pain was more intense than it had ever been. The fistula was found to be healed, the bowel pervious, a No. 9 Wales bougie passing without any difficulty. He demanded relief from his pain, at any cost, as life was unbearable. Operation February 27, 1903; anesthetic, ether. Did a perineal amputation of lower end of rectum, and made a left inguinal colostomy, bringing the sigmoid through a gridiron incision, running the gut between the oblique muscles and under the skin for about two inches before bringing it to the surface, so as to make the best possible anus. Patient left the hospital in a few weeks, very much improved. He was instructed to irrigate the rectum through the lower end of the sigmoid daily with a hot boracic acid solution. He discontinued the use of morphine, gained in weight and for a short time was free from pain. Six months after the operation I saw him again when he showed very plainly a malignant cachexia. He was using large doses of morphine to alleviate the pain in the rectum. The artificial anus was a decided success, he having almost perfect control over his evacuations. I did not see him again but understood that he died a short time afterward from general weakness. This case had existed for sixteen years. Tissue removed from both my operations gave negative findings as regards malignancy, yet the man undoubtedly died of carcinoma. *Query:* When did the malignancy start?

*Case II.*—Mrs. C., aged thirty-two years, American, family history negative, no positive history of syphilis. Stricture about two inches up the rectum; constant discharge of pus and blood. Had been operated upon by an advertiser two years previous, with guarantee of permanent cure. When informed of the nature of her trouble she called upon the advertiser and demanded a return of the fee. He declined to return it, claiming that he had cured her of her former stricture, and that this was a new one which had developed afterward. Operation March 19, 1903. Anesthetic, ether. Internal proctotomy with forcible dilatation of stricture. Patient did not have an untoward symptom and



left the hospital in a few days. Was given a No. X Wales bougie to pass. One year later she had an attack of erysipelas which lasted about three weeks, during which time she did not pass the bougie. When she recovered she found that she was unable to pass the bougie, although she had no difficulty in evacuating her bowels. One week later she called to see me, and I was only able to pass a No. 4 bougie. It was three months before I was able, by gradual dilatation, to introduce a No. 10 bougie, the same size she herself had been introducing before her illness. I cite this case merely to show how necessary it is to keep the rectum dilated by bougies. In this instance four weeks was sufficient time to allow the stricture to contract from a size large enough to pass a No. 10 bougie down to a size hardly large enough to pass a No. 4.

*Case III.*—Mrs. B., aged thirty years, American. Family history negative. No positive history of syphilis. Annular stricture of rectum about two inches above anus. Had been operated upon two years prior by internal proctotomy. Almost unable to have evacuation of bowels, often requiring from one-half to one hour to complete defecation, at one time fainting while at stool. Continuous discharge of pus and blood. Emaciated, weak, nervous and melancholic. Operation, April 15, 1904, anesthetic, ether. Complete proctotomy, dividing stricture and severing both sphincters. Was given a No. 10 Wales bougie to pass. Incision healed in a few weeks. Made a quick recovery and was greatly improved in mind and body. I report this case on account of the fact that never at any time since the operation has patient suffered from incontinence of the rectum although both the sphincters as well as the stricture were completely divided. Possibly the induration caused by the stricture acted as an auxiliary sphincter, and gave control of the stools.

#### A CASE OF SO-CALLED TRAUMATIC ASPHYXIA.

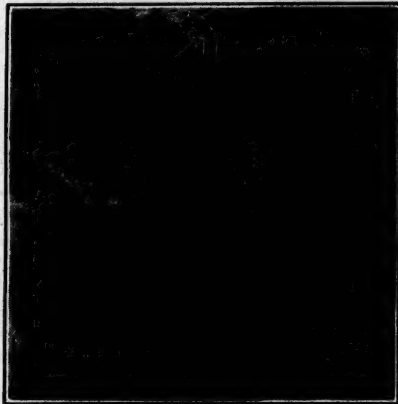
BY RANDOLPH WINSLOW, M.D.,

OF BALTIMORE, M.D.;

PROFESSOR OF SURGERY IN THE UNIVERSITY OF MARYLAND.

On August 10, 1904, M. C., male, aged twenty-two years, was admitted to the University Hospital and presented the following history: He is employed by a large dry goods house as conductor of an elevator and having occasion to get on top of the car for some purpose, he told an assistant to lower it, but by some mistake the elevator was raised and the man was caught between the ceiling and the top of the car. He was forcibly bent down so that he sat on his heels, while his head was forced down to the roof of the car. He was kept in this position for some moments, during which time he felt as if his head and chest would burst, and he could not breathe. He did not lose consciousness, but suffered considerable pain. The elevator was lowered, and the man was brought to the hospital. Upon admis-

sion his pulse was 120, respiration 40, and temperature normal. He was suffering much pain, and had bloody expectoration and some epistaxis. An examination of his chest revealed fracture of the fourth, fifth and sixth ribs on the left side, with some emphysematous infiltration of the subcutaneous connective tissues. There was some cough. There was no blood in the urine, nor was he unable to empty the bladder. A contusion was seen on the right ear. A lacerated wound was found around the rectum, which had evidently been made by the heel of his shoe as he was doubled up by the pressure. There was no fracture of any of the bones, except the ribs mentioned. The pupils were equal and responded to light, but unfortunately no ophthalmoscopic examination of the eyes was made. The sight and hearing were not impaired. There was an extensive extravasation of blood under each conjunctiva. The most noteworthy feature of the case, however, was a bluish discoloration of the head,



face and neck to the level of the cricoid cartilage, or the collar line. This discoloration looked as if he was cyanosed, but it stopped short at the point mentioned. It was punctiform in character, like the eruption of scarlet fever, but blue instead of red. The head and face were considerably swollen. Upon pressure the discoloration did not disappear or materially change its color. The temperature rose to 100.8° F. on the day of the injury, dropping to normal in three days, and the pulse rate rapidly diminished to 80. There is but little more to record in the after history of the case, as he was out of bed in a week and left the hospital in twelve days. The day following the injury the color of the skin was slightly pinker, and it gradually faded, but had not entirely disappeared when he was discharged. There were none of the changes seen in ordinary ecchymotic conditions, except in the bruised area mentioned, and in the conjunctiva. No special treatment was instituted except an ice-cap to the chest, and subsequently adhesive strips with enough morphine to relieve his pain.

The condition described above is one of the rare results of a forcible compression of the thorax, and has been called traumatic asphyxia by some authors. Only a few cases have been observed in the living person, though it has long been known that such discoloration was occasionally found in those who had been squeezed to death by compression of the thorax. The cause of the blue discoloration was supposed to be hemorrhage, but in a case recently reported by Beech and Cobb, of Boston, pieces of skin were subjected to microscopical examination and it was found that there was no extravasation of blood, but a dilated condition of the capillaries from overdistention. I am glad to be able to confirm this observation, as I also cut out a piece of skin from the discolored area, and requested Prof. Hirsh, of the University of Maryland, to make a careful study of its pathological histology, and I herewith append his report:

*Report of skin removed from the case of Traumatic Asphyxia.*—A piece of skin about one c.c. square was removed from the side of the neck and hardened in Zenker's fluid, and stained with hematoxylin and eosin, and Van Gieson's stain. Microscopically the sections show practically no alterations; the capillaries in places are more or less distended with blood, but no blood is found anywhere in the tissues outside of the blood vessels. The sections are those of normal skin.

According to Beach and Cobb, in the article quoted above from the *Annals of Surgery*, Vol. 39, page 481, April 1904, only seven cases have been studied in the living individual, two of these cases occurring in Boston and five in Germany. This case is therefore the eighth to be reported, unless others have been published since the time of the above-mentioned article.

The case herewith recorded does not present any new features, but is corroborative of the observations of other writers. The excellent photograph accompanying this paper was taken by Mr. W. B. Warthen, a student in the graduating class of the University of Maryland.

Since writing the above I understand a paper has recently appeared in the *Deutsche Zeitschrift für Chirurgie*, or some other German periodical, which I have not seen as yet, in which several cases are depicted.

## MEDICAL PROGRESS.

### SURGERY.

**New Method of Anesthesia.**—Sauerbruch has described a method suitable for operations on the thoracic cavity, in which he employs a pneumatic cabinet sufficiently large to contain the operating table, together with the surgeon and necessary assistants, while the head of the patient projects through a hole in the side of the cabinet. The air in the latter is then exhausted to the required degree and when the pleural cavity is opened, collapse of the lung is avoided. ENGELKEN (*Deut. med. Woch.* December 15, 1904) also describes a method by which it is intended to overcome the lia-

bility to pneumothorax produced under ordinary conditions. His plan reverses that of Sauerbruch and is claimed to be much simpler. The head of the patient and the anesthetizer are enclosed in a smaller cabinet in which the pressure of the atmosphere is raised above the normal. A rather complicated system of valves is required and also means for getting rid of the vapor of the anesthetic which escapes, in order that the anesthetizer may not inhale it himself. The author describes the satisfactory removal of a pulmonary tumor by the aid of this device.

**Treatment of Thrombosis.**—Thrombosis of the superficial veins of the lower extremity is a common and irksome complication. It is not free from danger. C. M. MOULLIN (*Brit. Med. Jour.*, December 24, 1904) states that it may be limited to one venous segment or may involve several. The usual treatment for these cases is rest in bed with the leg elevated. The author for a number of years, however, has practised the radical but eminently satisfactory method of excising the entire thrombosed portion of the vein at the very earliest possible opportunity. At first he limited this proceeding to cases in which there was merely a thrombosed loop. In one instance recently in which both internal saphenous veins were plugged right up to the opening, he cautiously explores the vein, slit it open, removed the clot and then excised the rest of the vein. A moderate degree of inflammation is prejudicial to this operation, but it is wise that, if at all acute, drainage should be free. These cases instead of lingering for a great many weeks in bed and having subsequently to wear elastic bandages, recover in ten days to two weeks.

**Congenital Hypertrophic Stenosis of the Pylorus.**—So much attention is being given to the pylorus at present that every reference to it should be noted. J. RUTHERFORD MORISON (*Lancet*, December 24, 1904) records the case of a male infant seven weeks old. The parents were healthy, there being no history whatsoever of syphilis. Delivery had been by forceps. The child vomited from birth. He was fed on Mellin's food. The bowels were constipated and they never acted without medicine. No treatment seemed to be of any avail. During the sixth week, the child progressively lost flesh. At the time of operation he was extremely emaciated and lethargic. The stomach was tremendously distended and every now and then could be mapped out by a peristaltic wave. No mass could be felt at the pylorus. The condition was desperate. On exposing the pylorus, it was found to appear normal on inspection, but on palpation, it felt firm and thickened. Pyloroplasty was determined upon. When the stomach was opened, it was found that the pylorus would only admit a pair of closed artery forceps with some difficulty and even they could be felt to dilate the part as they were passed through. The thickness and friability of the stomach wall rendered the operation most difficult. Two rows of sutures were used and at the end of the operation, the line of sutures looked very secure. Vomiting recommenced and the patient died thirty hours after examination. At autopsy the suture line was found secure. The pylorus was almost occluded. When the stomach was distended with water, none escaped through the pylorus. This was due to blocking by the tucked in thick pylorus ring. On the anterior wall near the pylorus, there was a small excavated ulcer one-sixteenth of an inch in diameter. Microscopical examination showed the thickening to be composed entirely of unstriated muscle, the other viscera were normal.

**Removal of Large Sharp Foreign Bodies from the Upper Esophagus.**—The difficulty of extracting



large sharp bodies from the esophagus has long been recognized and external esophagotomy is usually the operation which is indicated for their removal. W. KRAMER (*Zentralbl. für Chir.*, December 17, 1904) states that HACKER, between 1887 and 1900 performed esophagotomy in 27 cases for the removal of foreign body. The technic of the operation is however, difficult and the results are proverbially inconstant. It follows from this that if careful extraction can be accomplished through the mouth, the results must be better than by operation, especially if this be in the hands of a not thoroughly competent surgeon. The author cites the history of two cases which showed him conclusively that the incision of the esophagus for the extraction of foreign bodies, even in apparently desperate cases may not always be necessary. The technic practised it as follows: He exposes the esophagus by the usual incision on the left side of the neck. This incision is made at least nine centimeters in length or whatever may be necessary to give the operator a full view of the esophagus. Instead of opening the organ he now practises the following manipulation: While lifting the patient's head forward and pulling the larynx up, with the left hand, he endeavored with two fingers of the right hand in the wound, to push the foreign body into a different position in the esophagus. After some effort in each case, this manipulation proved successful, and he was able to pass the usual slender esophageal forceps through the mouth, to remove the body which previously had resisted all forms of intrabuccal manipulation. He considers that inasmuch as the statistics show that of 26 cases of esophagotomy, there were 69 lethal results, any method which enables the operator to remove the body without subjecting the patient to such a very extensive risk, must be of the greatest value.

**Local Analgesia.**—Equal in importance with the discovery by Corning in 1885, that cocaine applied to the trunk of a sensory or mixed nerve, would abolish sensation throughout its entire (??) was the observation made by Oberst that if the circulation of the part was retarded by a ligature or by the application of cold, the action of the analgesic was maintained so long as the circulation was controlled. ARTHUR E. BARKER (*Brit. Med. Jour.*, December 24, 1904) states that although these two principles may have been realized fully, the wide application of the method has not been inaugurated for two reasons, (1) because of the fear of cocaine, and (2) because of the insufficient methods for controlling the circulation. The discovery in very recent times, however, of eucaïne, which is far less dangerous than cocaine, and that of adrenalin, which fulfils Oberst's conditions without the employment of his cumbersome apparatus, has paved the way for increasing employment of local analgesia. When adrenalin and eucaïne are injected, several notable effects are produced. It must not be forgotten that the anesthetic may be retained locally in the tissues for as long a time as several hours. It is, in other words, fed out into the body very slowly. This naturally is a safeguard if cocaine be used, because the organism can take care of a large quantity if supplied to it slowly enough. One of the most important questions is how best to maintain the analgesia long enough to complete an ordinary major operation. The author advises the use of the following solution:

R Water .....	100 c.c.
Beta eucaïne .....	2 gram
Sodium chloride .....	8 gram
1 per M. adrenalin, chloride solution...	10 m

All this quantity can be used in an ordinary case if necessary. The author has often injected double the

amount, or six grains of eucaïne. The fascial planes are convenient aids in introducing the mixture in for example the case of removal of the appendix in the stage of quiescence. The skin is easy to deal with. With the muscles, however, it is somewhat different. The author advises a long blunt hollow needle, which should be passed through the skin about two inches outside the line of incision at its lower end and to be pushed slowly between the layers of muscles. From above downward this is repeated, except that the plan of injection is deeper. In each case 10 c.c. are injected. The author presents the instruments which he has found useful in the administration of this fluid. Without the adrenalin sensation is abolished by eucaïne for only about fifteen minutes. With it, however, the duration of analgesia is the same as that of the anemia, viz., fifteen minutes. Correspondingly the pain sense is lost more slowly when the adrenalin is used and it is therefore advisable to wait thirty minutes after the injection. This method has the added advantage over the older one of artificial edema, viz., that no anatomical details are masked. A cardinal point in success is to avoid dragging. This almost invariably produces pain. This is particularly true of the mesentery. If such pulling be necessary, however, or if adhesions have to be broken down, it is often convenient to give these patients a few drops of chloroform. The author closes with an enumeration of operations performed under eucaïne analgesia. They number 91, 23 of them being herniæ, 8 abdominal section and 5 amputations.

**New Operation for Movable Kidney.**—So many methods have been employed with varying success in the effort at replacing a movable kidney that a technic which promises to give better results than those previously employed will be welcomed. ANDREW FULLERTON (*Brit. Med. Jour.*, December 24, 1904) states that by this operation the kidney is swung up in its own capsule practically in normal position. A four-inch incision is made to the vertebral side of the angle between the last rib and the rector spinæ downward and outward toward the anterior superior spine. The kidney is found and is pushed up to but not out of the wound and a small puncture is made in the capsule so that a probe or director may be insinuated and a large blister be gradually separated from the vertebral surface and outer border of the kidney. This is the portion of the organ that normally looks backward and by peeling the capsule off here, the kidney is kept as nearly as possible in its proper place. A horseshoe-shaped flap of capsule can be separated so that the base is just about the center of the horizontal axis of the kidney. The margin of the blister is now cut in a U shape, the concavity downward. To preserve the inner tilt of the upper border of the organ, the inner limb of the incision may be made a little longer than outward. The finger is now insinuated under the ligamentum arcuatum externum and the tissues on its deep surface peeled up so as to get rid of the pleura. The finger then protects the pleura and an incision is made about a third or an inch or more above the lower margin of the ligament and parallel to its fibers to the whole available distance. The last dorsal nerve should be avoided. Kocher's artery forceps are pushed through the slit and the free end of the separated capsule is drawn through, spread out and stitched down to the ligament. The wound is sutured in layers, catgut being used for the deep stitches and silkworm gut for the skin.

**Ideal Method of Removing the Vermiform Appendix.**—HOWARD A. KELLY (*Am. Med.*, December 31, 1904) gives interesting historic data concerning the

earlier methods of removing the vermiform appendix, and describes an ideal plan which meets all the required indications and at the same time avoids the dangers often encountered. The base of the appendix is first crushed by a pair of forceps, grooved on the crushing surface and beveled above, easily managed with one hand and requiring a force of from 30 to 60 pounds in order to lock and to release them. The appendix is amputated by means of the ordinary Paquelin cautery, after which the base, held by the forceps, is cauterized and sealed by the red-hot point of the cautery, traveling slowly up and down in the groove of the crushing forceps for from forty to sixty seconds, and, on releasing the forceps, the narrow ribbon of crushed appendix is found converted into a thin translucent tissue with no lumen. The serosa is then united over this by serous sutures.

### MEDICINE.

**The Action of the Iodides in Arteriosclerosis.**—The use of this drug in the treatment of this condition is very extensive and yet but little is known of its mode of action. MÜLLER and INADA (*Deut. med. Woch.*, November 24, 1904) present the results of a series of observations in young men, otherwise healthy, to whom potassium iodide was administered in daily doses of from 3.4 to 0.5 gms., for periods of ten to fourteen days. It has been claimed that this drug has no vasodilating action. Examination of the blood from the experimental subjects showed that there was a marked loss of viscosity, sometimes as much as ten per cent. This apparently explains most of the therapeutic effects of the drug, as its action in increasing the fluid character of the blood, is equivalent to dilatation of the vessels, for the reason that the stream flows more rapidly. This also shows that the drug must be continued for long periods in order to produce any effects. The serum does not become fluid to the same degree as the blood *en masse*, and sometimes is even increased in density, so that the change appears to be governed by the behavior of the cellular elements of the blood alone.

**The Rarer Forms of Rheumatism.**—Some interesting comments on this subject are made by J. SCHREIBER (*Berl. klin. Woch.*, November 21, 1904) who believes that a sharp line must be drawn between muscular and joint rheumatism. To secure uniformity and to avoid confusion, the term muscular rheumatism ought to be dropped, and the word rheumatism applied to that inflammatory condition of the various locomotive organs and their appendages, which result from sudden changes of temperature. Persons inclined to rheumatism need not therefore fear intense, uniform cold, but rather overheating, especially that brought about by muscular exertion, followed by sudden rest and cooling. The quickest and most reliable remedy in cases of fresh or acute rheumatism, is exercise. The patient may safely indulge in all those movements which cause pain, but care should be taken to exclude joint rheumatism. Chronic rheumatism can only be cured by mechanotherapy, in which active and passive movements play an important part. Among the rarer sites for rheumatism, which are little mentioned in the literature, are the following: A rheumatic process in the periosteum of the ribs, the sternum and the long bones; rheumatism of the diaphragm, isolated rheumatism of the coccyx and the pelvic outlet; and localized rheumatism of the muscles of mastication. Instances of these are cited and good results were secured in all,

but that of the diaphragm, by forcible massage. For rheumatism of the diaphragm, the faradic current gave some relief. A number of localities are mentioned which are favorite sites of the rheumatic process, mostly muscular attachments.

**Occurrence of Myelocytes in Blood.**—Myelocytes are much more common in the blood of infectious cases, according to C. SCHINDLER (*Zeitsch. f. klin. Med.*, Vol. 54, Nos. 5 and 6) than is generally believed. In pneumonia there is a moderate or marked neutrophile leucocytosis with absence of eosinophiles; after the crisis, the lymphocytes and eosinophiles are again more numerous, and a few myelocytes make their appearance. Scarlet fever is accompanied by a neutrophile leucocytosis which runs parallel with the fever-curve, but during desquamation, a second leucocytosis, affecting chiefly the mononuclear and eosinophile elements, often appears. Myelocytes may be present both during the stage of polynuclear and eosinophile leucocytosis. In cerebrospinal meningitis and diphtheria, myelocytes were also encountered quite regularly and in the latter disease, a large number seems to signify a bad prognosis. In erysipelas the blood behaves like in pneumonia with defervescence by lysis. Myelocytes may also occur in lymphatic leucemia and in malignant tumors. There are few diseases in which the proportion of the different types of leucocytes is as characteristic as in typhoid. During the first week, the neutrophiles increase, the lymphocytes diminish and the eosinophiles disappear completely. In the stage of continuous fever, the lymphocytes gradually increase and the neutrophiles diminish and this goes on until there frequently is a crossing of the curves during convalescence. Exceptions to this rule are, however, common and there may even be a slight leucocytosis in uncomplicated cases. Myelocytes are present in all stages, independent of the number of neutrophiles. In malaria, the neutrophiles rise and fall with the temperature, but do not exceed normal figures. The lymphocytes behave in a like manner while the eosinophiles are about normal during the fever and diminish rapidly in the interval. Myelocytes are rather more abundant than in other infections. The author could not detect myelocytes in the blood of patients suffering from measles, and this disease seems to be the only exception to the rule, the significance of the presence of myelocytes only in the presence of a leucocytosis is very small, but if these cells persist at a time when the other white cells have become normal, they point to a functional exhaustion of the bone-marrow. This will influence the prognosis only, if the infection is still active with unabated virulence.

**Sigmoiditis.**—TH. ROSENHEIM (*Zeitsch. f. klin. Med.*, Vol. 54, Nos. 5 and 6) draws attention to the frequency of benign, inflammatory processes in and about the sigmoid flexure. As separate and distinct affections these have not received the proper study and have frequently been overlooked or else wrongly diagnosed as cancer. They may be acute or chronic and productive, are frequently followed by strictures of a moderate grade, and though extremely troublesome, are generally amenable to treatment without operation. The use of the sigmoidoscope marks a very great advance in diagnosis, since a great portion of the sigmoid flexure may now be inspected directly. Even exploratory laparotomy is often inferior to direct inspection, since the interior of the gut often gives more information than the exterior. It may well happen that the walls of the flexure are thickened to such an extent by simple chronic inflammation, that



the operator may have considerable doubt as to the true nature of the condition. The most common symptoms are pain, irregularities of defecation, and tenderness. The loop may be palpated as a thickened mass or distinct tumor. An acute sigmoiditis may be the result of simple, chronic constipation. Fever and general malaise are common here and occasionally attacks of obstruction, which yield however, to castor oil and injections. A mild general infection is probably set up from an ulceration or a diverticulum in which the feces stagnate, with secondary irritation of the peritoneum. Inspection will generally show a succulent and hyperemic mucous membrane. If the intestines are distended with air, the sigmoid will not balloon out. In the chronic cases, the patients have frequently lost so much flesh and strength, that the diagnosis of carcinoma seems probable. The mucous membranes is also very vascular here, but areas of pigmentation from former hemorrhages are very common. The stool frequently contains mucus and blood. Follicular inflammation is rare, but may also be readily diagnosed with the proctoscope. The treatment of all these conditions calls for regulation of food and stool, mild astringent irrigations and tonic drugs.

### PHYSIOLOGY.

#### The Passage of Foodstuffs from the Stomach.—

By means of the Roentgen rays, W. B. CANNON (*Am. Jour. of Physiol.*, December 1, 1904) was able to study the time it takes the various foodstuffs, mixed with bismuth subnitrate, to pass from the stomach. Fats remain long in the stomach. The discharge of fats begins slowly and continues at nearly the same rate at which the fat leaves the small intestine by absorption and by passage into the large intestine. Consequently there is never any great accumulation of fat in the small intestine. Carbohydrate foods begin to leave the stomach soon after their ingestion. They pass out rapidly, and at the end of two hours reach a maximum amount in the small intestine almost twice the maximum for proteids, and two and a half times the maximum for fats, both of which maxima are reached only at the end of four hours. The carbohydrates remain in the stomach only about half as long as proteids. These frequently do not leave the stomach at all during the first half hour. After two hours they accumulate in the small intestine to a degree only slightly greater than that reached by carbohydrates, an hour and a half earlier. Egg albumin is discharged from the stomach at about the carbohydrate speed. Doubling the amount of carbohydrate food increases the rapidity of the carbohydrate outgo from the stomach during the first two hours; whereas doubling the amount of proteid food strikingly delays the initial discharge of proteid from the stomach. The interval between feeding and the appearance of food in the large intestine is variable, but the mean for carbohydrates is about four hours, for proteids about six hours, and for fats about five hours.

**The Function of the Renal Capsule.**—The recent therapeutic application of decapsulation of the kidney with beneficial results in cases of colicky pains, hematuria and albuminuria, and the still more recent cures of simple Bright's disease, reported by the use of this simple surgical procedure, impart a peculiar interest to the research conducted by I. LEVIN (*Am. Jour. Physiol.*, November 1, 1904) in the rôle of the renal capsule for the function of the kidney. The fibrous coverings of the liver, spleen, pancreas and all other parenchymatous organs, when compared with that of the kidney, show the following marked difference,

namely, that while the former are very thin and rightly adherent, forming an integral part of the organ, the latter is a strong fibrous covering, easily detached from the organ. The author assumes, *a priori*, that the capsule of the kidney is functionally more important than the capsules of the other organs. By means of the oncometric method of investigation, which records the minutest changes in the size of the kidney, the author sought to discover the influence of the capsule on the kidney. He used two different agents with which to bring about a shrinkage of the kidney, adrenalin, which actively contract the blood-vessels of the kidney simultaneously with the rise of the general blood pressure, and stimulation of the vagus nerve, which causes a diminished supply of blood to the kidney through the weakening of the heart action and the consequent fall in blood pressure. Twenty-four or forty-eight hours after decapsulation of a dog's kidney, the author clasped it in the oncometer and after taking the normal tracing, either injected adrenalin or stimulated the vagus. On comparing the resulting tracing with that obtained from the non-decapsulated kidney, he finds that in the latter, immediately after the injection or stimulation, the tracing falls, then continues for some time on the same level, but always shows pulsation and returns to the old level, mostly even before the tracing of the carotid becomes normal. In the decapsulated kidney the tracing also falls immediately after the injection, then for a considerable length of time continues as a straight line, showing an absolute cessation of pulsation in the kidney, and returns to the normal much later than the carotid blood pressure. From these results the author draws the following conclusion: Any stimulus, which either by contracting the general blood pressure or weakening the action of the heart, diminishes the size of the kidney, exerts a much stronger influence on the decapsulated kidney than on the normal one, and this influence also lasts longer on the former. The capsule acts like an elastic covering. On the one hand it prevents an undue overfilling of the kidney with blood, on the other hand it does not allow the kidney to remain contracted and bloodless for a long time.

#### The Production of Cholin from Lecithin and Brain Tissue.—

The discovery of the poisonous ptomaine in the cerebrospinal fluid in various forms of functional and organic nervous disease, has led many to attribute to cholin some causal connection with the disease. Whether this is the case or not, will be determined by investigations in the laws that underlie the production of cholin in the body. A definite contribution to this subject is made by I. H. CORIAT (*Am. Jour. Physiol.*, December 1, 1904). Cholin may be produced by the putrefaction of lecithin, and also by the putrefaction of brain-tissue. There is an enzyme present in brain-tissue capable of splitting cholin from lecithin. This enzyme acts only in neutral or slightly alkaline media, while an acid medium inhibits it. This is exactly opposite to the case with the proteolytic autolysis of brain-tissue which is favored by acid and inhibited by alkali. In the body the action of the enzyme is favored by the normal alkaline reaction of the nerve-substance and cerebrospinal fluid. The ease with which this enzyme acts is probably explained by the fact that the lecithin in the central nervous system, as in the stroma of red blood-corpuscles, is not in a chemical combination, but in an emulsiform condition and is therefore capable of mechanical solution. The enzyme can be destroyed by heating, and then, if the suspension of the brain-tissue be kept absolutely sterile, no cholin is produced; if putrefaction is allowed to supervene, cholin will be formed in a greater quantity than by autolysis alone.

As with the other enzymes, there is an inhibitory influence of reaction-products. Efforts to isolate this enzyme have so far been unsuccessful.

**The Absorption and Utilization of Proteids without Digestion.**—Certain writers have recently maintained that native proteids can be readily absorbed and utilized by the organism without the intervention of proteolytic enzymes, provided they are introduced in soluble form. It has, on the other hand, been recently assumed that the crystalline cleavage products of the proteids in the intestinal contents are absorbed and synthesized by the organism into the proteids peculiar to its tissues and fluids, that assimilation consists in the reconstruction of amido-acids, di-amido-acids, etc., into new molecules. A series of important experiments in this domain were performed by L. B. MENDEL and E. W. ROCKWOOD (*Am. Jour. Physiol.*, December 1, 1904), with the following results: Vegetable proteids (crystallized edestin from hemp-seed and excelsin from the Brazil-nut) slowly introduced in solution into the circulation of animals, can apparently be retained in the organism for the most part, even when the quantities introduced almost equal that of the globulins normally present in the blood. When solution of vegetable proteids are injected too rapidly or in too great concentration, toxic symptoms, including an inhibition of the cardiac and respiratory activities may be observed, especially in cats. The vegetable proteids soon disappear in considerable part when introduced into the peritoneal cavity. They do not reappear in the urine. The unaltered proteids edestin and casein are absorbed to a very small extent, if at all from portions of the living small intestine in which the ordinary digestive processes are excluded as far as possible. On the other hand, the proteoses and peptones obtained by peptic digestion of these proteids readily disappear from the intestine under the same conditions. The typical vegetable proteids show no marked difference from those of animal origin in their relation to the processes of metabolism. It is not necessary to assume that the proteids are first completely broken down by the intestinal enzyme erepsin before they are absorbed, for casein (upon which erepsin can act) may remain unabsorbed.

**The Diastases and Anti-Diastases of Blood-Serum.**—The manifold characteristics and adaptability of the blood are plainly indicated in the researches reported by M. ASCALI and A. BONFANTI (*Hoppe-Seyler's Zeitsch.*, October 22, 1904). The blood contains not only a diastase, as discovered by Magendie and Claude Bernard, but also several kinds of diastase, capable of converting different varieties of starch. Thus blood-serum in acting upon a suspension of only one kind of starch will not produce as much sugar as when acting upon a suspension of several different kinds of starch. The different diastases have a specific or at least a partly specific action. By means of a new method the authors have revealed a phenomenon, which by analogy with the phenomenon of selective absorption they term "selective ferment-action." After a certain quantity of blood-serum has acted upon rice-starch for twenty-four hours, and the amount of sugar produced has been measured (the further addition to the mixture of a definite amount of potato-starch will result in the formation of more sugar than if an equal amount of rice-starch had been added. It is well-known that the saccharification of starch depends upon the successive action of different ferments, dextrinase, maltase and glucase, but the researches of the authors show that these actions are still more complicated, inasmuch as there are different kinds of these corresponding to the various kinds of starch. These results correspond to those obtained with the hemolysins and precipitins. It

is, moreover, possible by means of the immunizing treatment of rabbits with pancreatin, to produce in these animals an anti-diastase which counteracts the diastase of the pancreas. But the formation of this anti-diastase is not constant. The prolonged immunization of the animal causes the total disappearance of the anti-diastase that has been formed. The anti-diastase unfolds its activity to varying degrees with the diastases of other animals. The authors have not been able to discover any inhibitory action upon the diastase contained in the serum of the same animal.

**The Enzymes in Various Kinds of Milk.**—In a series of comparative investigations on the enzymatic content of different kinds of milk, A. ZAITSCHEK (*Pflüger's Archiv*, September 30, 1904) finds that woman's, mare's, cow's, ass's, goat's and buffalo's milk contain no peptone, neither pepsin nor trypsin, no glycolytic ferment, but they all contain, in their fresh state, without exception, a diastatic enzyme.

**The Effect of Surgical Operation upon the Metabolism of Carbohydrates and upon Diabetes.**—It has been maintained by various observers that glycosuria may result from some surgical procedure. This conclusion has been put to a critical test by E. PFLÜGER, B. SCHÖNDORFF and FR. WENZEL (*Pflüger's Archiv*, November 4, 1904). A careful examination of the urine of 144 cases subsequent to the most diverse surgical operations, was made with the following results. In spite of the employment of narcotics, surgical attacks produce no glycosuria. The author's do not exclude the possibility that injuries which cause a mechanical disturbance of the sugar center in the medulla, give rise to sugar in the urine. Narcosis, even if prolonged for 2½ hours, does not in general produce glycosuria.

## THERAPEUTICS.

**Antistreptococcus Serum in Puerperal Septicemia and Scarlet Fever.**—The employment of antistreptococcus serum in these conditions is endorsed by A. G. HAMILTON (*Am. Jour. Obstet.*, November, 1904), who has reported a series of successful cases. To obtain good results the disease must be due to the streptococcus alone or this organism must be decidedly predominant, microscopical evidence being solely depended upon. The serum must be administered early in the onset of the disease. The quantity given must be sufficient to produce a perceptible change in twelve hours and be repeated as often as indications demand. For the first dose 30 c.c. should be given, repeated at twelve-hour intervals, the dose being gradually diminished as benefit is derived. This treatment in no way interferes with other treatment that may be demanded by particular symptoms. In mixed infection the serum may be used as an adjunct to other methods, but its success is not so striking.

**Roentgen Rays in the Treatment of Leucemia.**—Since the publication of Senn's case, in 1903, of the effect of the Roentgen rays in the reduction of the number of leucocytes in leucemic blood, the subject has steadily increased in the amount of interest attracted. GEORGE DOCK (*Am. Med.*, December 24, 1904) presents a study of the reported cases, in which the rays have been used in leucemia. Efforts to treat leucemia were first prompted by the results in certain tumors. Senn denied the usefulness of the rays in sarcoma and carcinoma and thought that the action of the rays was upon certain micro-organisms which he did not doubt were concerned in the cause of leucemia. Twenty-nine cases have been studied by the author besides reports of some



others which were not clearly indicated by titles. Cases of leucemia should be classified as accurately as possible according to peculiarities of blood picture and changes in the hematopoietic organs. Two cases of the acute lymphatic form died. It is said that the acute cases are not suitable for Roentgen-ray treatment, but as we have nothing better, careful treatment should be tried in all early-recognized cases. Two sub-acute lymphatic cases died; in one of the cases there was much improvement. Of five chronic lymphatic cases, only one has died and the others have all been greatly improved. Of twenty-one cases of mixed-cell, myelogenous, or splenomedullary cases, ten were not presented with sufficient detail to be useful. In the remaining eleven cases the leucocytes fell to normal or near it. There have been wide variations in the technic of the different operators. Some have exposed only the region over the spleen, some the epiphyseal regions of the long bones, some the shafts of the long bones and some the sternal region. The length and number of exposures have also varied widely. Exposures of from ten to twenty minutes have been the most frequent. The dosage of the ray is impossible to estimate as the language terms and even the meaning of the different operators vary, and of the many devices generally made use of none is accurate. There are differences in the results compared with length of treatment that cannot, apparently, be reconciled. Theoretically, a hard or high vacuum tube should be better in the treatment of internal organs, like spleen and bone marrow, and there is less danger of burn. In the improvement of leucemia it is necessary to consider the number as well as the kind of leucocytes. The variations of the eosinophiles, basophiles, degenerated leucocytes and nucleated red corpuscles, are not generally treated at sufficient length. The leucocytes generally decrease after the treatments; and it has been stated that the improvement continued during intervals during which the treatment had been suspended. The changes in the red blood cells do not receive as much notice as those of the leucocytes. There is generally noted a gain, and nucleated red cells have often been seen to disappear. The effect of the treatment on the diseased organs is sometimes most striking. In all chronic cases the glands diminished. The effects on the spleen were by no means uniform, and it has been shown that complete reduction of the enlarged spleen cannot always be expected. Connective tissue overgrowth may prevent the organ from resuming its normal size. Subjective symptoms were improved in most cases, and edema very often disappeared. The improvement often observed is in striking contrast to the fact that relapses and even deaths have occurred among patients apparently most improved, not only generally, but as regards the blood. Toxic symptoms have been noted in several, but toxic symptoms are so common in leucemia that it is impossible to tell how much the symptoms noted were dependent upon the Roentgen ray. The author concludes that some cases of leucemia undergo marked improvement under Roentgen-ray treatment. In no case has the treatment and observation been carried out long enough to speak of cure. It is possible that treatment in very early stages may be more effective than it has hitherto been. Roentgen-ray treatment of leucemia is dangerous on account of the usual risk of dermatitis and burns, but probably also on account of toxic processes as yet impossible to explain. No special rules can be laid down at present for treatment with Roentgen rays; great care should be taken to avoid burns; methods should be as fully described as possible in each case; the blood should be carefully examined as

fully and as frequently as possible, and if possible, urine examinations should be made, to throw additional light upon the metabolic changes.

**Value of Stereoscopic Skiagraphy.**—The application of the principles of stereoscopy to the art of skiagraphy was first made in this country by Elihu Thomson, and afterward abroad. MIHRAN H. KASSABIAN (*N. Y. Med. Jour. and Phila. Med. Jour.*, December 31, 1904) explains the principles and technic and presents a few improvements which he has made in the methods of practice. There is a generally mistaken idea as to the relative significance of the terms photography and skiagraphy. The photograph is made by reflected light and the skiagraph by transmitted light. A picture made with one lens seems flat as when seen with one eye, but when two pictures are taken simultaneously with lenses placed at a distance apart equal to the pupillary distance, and then viewed each with one eye, the effect will be the same as when viewing the original with two eyes. In stereoscopic skiagraphy two negatives are made of the same part. The position of the part is not changed, but the tube is moved in a line parallel with the plane of the plate, a distance equal to the average pupillary distance. The two skiagrams are afterward examined simultaneously in a special stereoscope. Usually the patient is permitted to rest on the plate, thus causing change in position of the foreign body. In the table designed by the author the tube is placed under the table and the plate upon the patient. The foreign body is carefully centered with a fluoroscope, the tube moved to one side about  $1\frac{1}{4}$  inches, and the other plate exposed. The tube is then moved to the other side of the center about  $1\frac{1}{4}$  inches and the other plate exposed. No two tubes have exactly the same vacuum and in any tube the vacuum changes during the exposure, so in order to have the same density in the two plates it is necessary for the operator to regulate the second exposure as his experience dictates. The development is to be carried on with care to produce equal density in the two plates. The plates may be examined in Wheatstone's reflecting stereoscope. This has the advantage that any size plates may be examined and that the negatives may be examined before any prints have been made. The right eye must view that plate which was made by the tube in the right position and the left eye that which was made in the left position. Brewster's refracting stereoscope may be used or the pictures may be reduced and examined in the ordinary method with a common stereoscope. The advantages of the stereoscopic skiagraph are that any deficiency in the one plate is easily recoverable in the other, that the anterior and posterior views are discernable. In anatomy the structure of the bones is shown. In the dry skull the grooves for the meningeal arteries are seen, the concave appearance of the processes, the frontal sinuses, etc. The exact relations in the joints, and injected soft tissues and organs are plainly shown. In surgery the advantages are numerous and new experiments are constantly being made.

**Primary Lupus Vulgaris of the Oropharynx and Nasopharynx Treated by X-rays.**—Primary lupus vulgaris of the pharynx and nasopharynx is sufficiently rare to warrant one's placing another such case on record, but especially when the results obtained are satisfactory and the means of treatment are new. H. S. BIRKETT (*Med. Rec.*, December 24, 1904) reports a case in a lad of fifteen years. Patient had lived an outdoor life and had always enjoyed good health. One brother and three paternal uncles had succumbed to pulmonary tuberculosis, and the patient occupied the room in which the brother had died. Two nodular growths were sit-

uated on the lateral and posterior walls of the pharynx. The nodules were the size of a mustard grain and distinct at the center but merged at the edges. The tonsils, anterior pillars and uvula were not involved. The infiltrations extended to the cushion of each Eustachian tube, involving the salpinopharyngeal folds, there being no extension into the posterior nares. Under ether the greater portion of the masses were removed. Microscopical examination showed typical tuberculous lesions. Koch's tuberculin, lactic acid, and the galvanocautery were successively tried without benefit. Roentgen-ray treatment was then commenced. The tube used was rather low and placed at ten inches from the patient. Ten minutes were given at each treatment. At the end of a week there was an inflammation of the surrounding parts and the treatment was discontinued for three weeks. Twenty-three daily exposures were then given and the cervical glands removed. The local condition in the throat had entirely disappeared and the patient was regarded as cured. At the end of three months there was a recurrence. The cartilage of the septum was alone involved and there was no involvement of the nostril on either side. The lesion was again submitted to the action of the Roentgen rays with satisfactory results. The author briefly reviews the cases that have been published.

**Therapeutic Uses of the Roentgen Ray in Dermatology.**—The X-ray is probably the most important therapeutic agent in the history of dermatology, and although of recent development, it has advanced with such rapidity that already sufficient material is available to justify certain definite conclusions. LOUIS F. FRANK (*Wis. Med. Jour.*, November, 1904) gives a brief résumé of the progress made in this field of research, from the first cases reported by Schiff in 1897 to the present. Histological investigation shows that the action of the rays is to cause degeneration of the epithelium and its structure, the hair follicles, the perspiratory and sudoriferous glands, accompanied by inflammatory reaction, the extravasation of serum and leucocytes from the blood vessels. A bactericidal action of the rays is doubted by the majority of authors. Theoretically the indications for the use of the rays are in such conditions which involve the epithelial structures and clinical experience seems to bear out this theory. Epithelial new formations, benign and malignant, parasitic diseases, such as sycosis, favus, ringworm, and a third group including lupus, eczema, acne vulgaris, psoriasis, and the like, have been successfully treated. The apparent success in the eradication of epithelioma and cancerous degeneration of the skin, designated a remarkable progress in the field of surgery. Although in the majority of cases the growth will disappear without the appearance of any inflammatory reaction, a slight burn is found to hasten the process, and is generally encouraged. Although the eye cannot be protected in all cases, no deleterious effect other than a slight conjunctivitis and keratitis has been observed. It is recommended as hastening the reaction, to remove with the curette, as thoroughly as possible, all scales, crusts and broken down tissues. In the most obstinate cases of acne which have resisted all measures, a surprisingly short series of treatments will accomplish wonders. In these cases we desire to avoid a burn, and a weak soft light is to be used. Forty cases were treated. Of eczema, ten cases were treated. These were of the chronic infiltrated type seen on the palms. In none of them was the irradiation carried to the point of erythema. Experiments with cases of hypertrichosis have been unsatisfactory, and its use is discouraged. In sycosis, the results have been gratifying. The hair falls out after a few treatments and the abscesses disappear. The action

is not due to any bactericidal action but to the depilatory power of the rays. The results in lupus vulgaris and lupus erythematosus have been on the whole disappointing and the method of Finsen has given better results. The action in cases of keloids and cicatrices has been beneficial. Of cases not in the realm of dermatology, tuberculous glandular enlargement of the neck, and actinomycosis were benefited, and laryngeal tuberculosis, sarcoma of the thyroid, a large inoperable tumor, were not benefited.

## PRESCRIPTION HINTS.

**Treatment of Jaundice.**—The radical and only satisfactory course of treatment of this condition, writes Rolleston ("Diseases of the Liver and Gall-Bladder"), is the removal or cure of the underlying condition in which jaundice is a result; for this an accurate diagnosis is essential. Syphilitic gummata pressing upon the ducts should be treated by iodide and mercury. Calculi should naturally be removed by surgical measures. In the large number of cases jaundice is due to or depends on catarrhal inflammation of the ducts. These are often benefited by copious draughts of water with Carlsbad and Vichy salts. The salicylates are also of value in the condition.

Symptomatic treatment consists in taking plenty of exercise, plenty of water, salines, particularly the phosphate or sulphate of soda, magnesium sulphate, or the natural purgative waters on an empty stomach, before breakfast. Vigorous catharsis is not advisable. A useful combination for the alleviation of the gastric irritability and to stimulate the liver parenchyma is as follows:

℞ Sodii bicarbonatis ..... ʒi (40)  
Bismuthi subcarbonatis ..... ʒiii (120)  
Bismuthi salicylatis ..... ʒi (40)  
Div. in pulv. No. xxi. One t.i.d. post. cibem.

The same prescription in combination with minute doses of calomel is efficient in the flatulency so commonly found. The following capsule may be of service in this regard as well.

℞ Creosoti ..... ℥vi  
Methyl salicylatis ..... ℥vi  
Fiat in caps. No. vi. One morning and night.

Fresh ox bile (*fel bovis*) is very serviceable given in capsules, or keratin-coated pills, 5 grs. each. It makes up for the deficiency of the normal bile of the intestines.

**Can Biliary Calculi be Dissolved?**—Numerous drugs have been tried and recommended with a view to dissolving biliary calculi, but with little success. Durant's famous remedy:

℞ Ether ..... }  
Ol. Terebinthinæ ..... } ..... aa. ℥x.  
Fiat capsulæ—q.s.

has been known to bring about some results, but the action has been one more as an antispasmodic than as a solvent. The stones have been liberated and pushed out by the peristalsis and dilatation induced. Chloroform, which enjoys some repute, acts in a similar manner. Olive oil has the best reputation. It is probably highly apocryphal that olive oil can dissolve gall-stones within the bladder, but it is conceivable that it might exert a solvent action on a calculus impacted in the actual orifice of the biliary papilla. The fatty acids and glycerin from the oil absorbed from the bowel may reach the liver and lead to an increased flow of bile in the gall-bladder. Bile acids dissolve cholesterolin, hence the more bile passing over a calculus, the better chance there is for it to become smaller. Olive oil is given in doses of from 6 to 8 oz. a day. ROLLESTON.



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**SATURDAY, FEBRUARY 4, 1905.**

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## ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THE annual meeting of the Medical Society of the State of New York, which convened as usual in the last week of January, was even more largely attended than are the sessions of this always venerable organization. It is very evident that the recent unfortunate failure of union between the two representative medical bodies of this State has not lessened the interest of members of the older State organization. As to its scientific program, a glance at the report of its proceedings in this issue of the MEDICAL NEWS (see page 223) will show that this was well up to if not above the high standard set in this matter by the Society itself. The discussions were animated, the tendency to dwell on practical matters rather than theoretical considerations well marked, and the suggestive influence of the whole session as a stimulant for future clinical observation very evident.

Undoubtedly the most prominent feature of the scientific program was the symposium on "Epidemic Cerebrospinal Meningitis." Last year at this time we were here, in the East particularly (though the disease did not spare certain parts of the West), going through a rather

severe epidemic of this affection. The aftermath may now be gathered with decided advantage. The cases are not so near as to be seen in exaggerated perspective and the comparison of observations and results can scarcely fail to be of service to the profession at large. We commend to the secretaries of medical organizations generally this idea of having discussions of local epidemics not only while the disease is actually in progress, when as a rule physicians are too occupied with their cases to have quite allowed their own thoughts to be clear to them, but sometime after, when knowledge gathered has simmered down into the precious residue of experience gained, which will, with all the more assurance not be lost to the physician himself or to his colleagues, if he has the opportunity for its public discussion. The other symposium on the various phases of "Prostatism and Its Treatment" was probably the fullest discussion from every point of view of this important subject that has ever been held in an American medical society apart from meetings of specialists. The interest in it serves to show how much has been accomplished mainly by American workers in a special field. There is evidence of real progress of enduring kind in a subject that seemed almost hopeless to thorough surgery only a few years ago.

The two addresses at the evening meeting of Tuesday, that of Dr. Harrington, of Boston, on the work accomplished by the laboratories of the Massachusetts State Board of Health, and that of the retiring President of the Society, Dr. Hamilton Wey, which touched a phase of a similar subject for New York, alas not in the retrospect of good work well done, but of a hopeful prospect, constituted an excellent index of the present state of medical feeling with regard to the helpfulness of the laboratory worker for public health and private practice. What Massachusetts has accomplished in a quiet unostentatious way stands as a model for every State that wants to increase the efficiency of its health department. Boston is sometimes said to be not exactly in one of our American States, but in a special state of mind. It would be eminently desirable if that state of mind could be made very generally contagious. As for New York, we sincerely hope that President Wey's suggestion that every county shall have a laboratory with an expert laboratory worker, will become an actuality within the next few years. The supply will equal the demand if a movement

like this is once started, and the amount of good that may be done by keeping the general practitioner of medicine, even in distant country places, in touch with laboratory advances in clinical medicine will be almost incalculable.

Perhaps the most generally interesting feature of this meeting for the profession of New York State was the attitude assumed toward the question of reunion of the two State organizations. Before the meeting there had been rumors of a recession of the Society from its former position of willingness to encourage the union. These were dispelled by the prompt, business-like methods with which the whole subject was treated. The feelings of the profession in New York State and not individual likes or dislikes were considered and the whole matter, without a word of dissent, placed on the former plane of progress now with apparently no possible obstacle to prevent a united medical profession in New York from firmly and with a legal recognition not before possible, taking its stand for the uplifting of members and the benefit of the public health. The reception which had been arranged for Dr. Louis McMurtry, of Louisville, the President of the American Medical Association, was the best proof of the cordial feeling of the Medical Society of the State of New York toward the national body, and an index of the sincere desire once more to be in close touch with the profession of the country. This tribute was unfortunately prevented by an acute illness of Dr. McMurtry, but the feelings of cordiality inherent in the purpose were of themselves an earnest of speedy and complete readjustment of all difficulties that now prevent the Empire State from taking her proper place in the medical influence she should have in this country.

#### THE X-RAYS AND STERILITY.—A WARNING NOTE.

IN our issue of last week we discussed editorially the possible association between the Roentgen rays and sterility. These comments were based on the recent observations of Dr. F. Tilden Brown, of this city, made on a number of patients and physicians who had spent more or less time in an X-ray atmosphere. The unfortunate discovery was made that these persons were the subjects of an azoospermia without being conscious in any way of deterioration or change in their potency.

Observations of this character are of more than academic interest and would soon strike

terror into the ranks of our X-ray workers if they were found to be substantiated by further evidences of the possible havoc which this now almost universally accepted therapeutic agent could produce in the generative organs of either doctor or patient.

Albers-Schönberg, about a year ago first drew attention to the fact that in male rabbits and guinea-pigs in which the abdomen was exposed to the action of the X-ray, an azoospermia was gradually developed. Then Friebe found that this was due to the disappearance of the epithelium in the seminal tubules, which resulted in an atrophy of the testes.

Another and still more convincing series of observations is now presented in a communication by Halberstaedter (*Berliner klinische Wochenschrift*, January 16, 1905) who worked in Prof. Neisser's clinic under the latter's direction. He studied the effects of the Roentgen rays on the ovaries of rabbits and found that by exposing one side of the abdomen while the other was suitably protected, marked macroscopic and microscopic alterations took place as determined by subsequent autopsies. In order to avoid any possibility of error, the ovaries in another series of animals were first inspected by performing an exploratory laparotomy and then exposing them to the rays after the abdominal wound had healed. Any inherent difference between the two organs could thus be noted. It was proved that the marked differences between the two sides could be ascribed to nothing else than the rays. The histological change most in evidence was the complete disappearance of the Graafian follicles, in about fifteen days. Whether this loss is permanent and whether or not, regeneration can take place, has not yet been determined. It was also found that the ovaries seemed more sensitive to the effects of the rays than the outer skin of the abdomen, and when compared with control experiments in male rabbits, developed degenerative changes in shorter time and with fewer exposures.

How far these observations in animals apply to human beings cannot as yet be definitely stated, nor is it known how permanent the effects may be. Whether individual susceptibility has any influence is also unknown. Dr. Brown's observations, which are apparently the first made on the human subject, seem to be confirmed by the animal experiments of our German confrères. While further proof is still desirable, it may be just as well to take the bull by the



horns and institute measures for securing efficient means of protection for both patient and physician. Well tested methods of shutting out the rays from localities where their effect is not desired are definitely known. It would seem a simple matter by the exercise of a little ingenuity to produce a suitable protectant with materials impervious to the X-rays, which we have at hand. If our fears are proved to be groundless, which now seems hardly likely, the trouble taken will not be very costly, and no restrictions will be placed on the use of what is one of the greatest of modern therapeutic and diagnostic measures.

#### THE "CRAW-CRAW" CRAZE.

CHICAGO, as usual, is nothing from a medical standpoint if not hustling, and now Dr. J. F. Biehan, the city bacteriologist, has climbed upon the front seat of the band wagon and is busily engaged in issuing glad sounds to the multitude at large. This is as it should be, for variety is more than the mere spice of life to a western city, and after their doleful dirge on the iniquities of bathing with the piping piccolo solo, anent the curing of inebriety by the use of glasses, already ordered, it is a comfort to hear the full orchestration of the official band merged in the soft cadences of the dreamy "Il Bacio Waltz." For Dr. Biehan gravely confirms the popular refrain that "there is no harm in kissing," at least from a sanitary standard, if only his antiseptic precautions are followed, and assures the lads and lassies that there is no need for a "body" to cry if he and she will pin their faith on a weak solution of copper sulphate or boracic acid.

The directions already published are minute and graphic in the extreme, being, it seems, furnished with a ground plan, to be supplemented by an elevation, and are as follows: "Before greeting the loved one in the hallway pause for an instant. As you gaze lovingly at her reach gracefully for your coat-tail pocket and get the vial of boracic acid. Remove the cork quickly and deftly, apply the solution to the lips with the fingers or cork; then replace the solution in the coat-tail pocket. You'll need it later. While you are thus engaged the young woman should be doing likewise. She too should carry a vial of boracic acid, or, for variety, might have one of sulphate of copper. An ornamental vial hung about the neck by a gold chain would be a pleasing novelty. When the lips of both have been

wet with the antiseptic, then kiss; kiss without fear; kiss a dozen times, for you will be safe from "craw-craw"—"craw-craw," the dread disease caused by kissing.

What this "dread" disease may be we confess we do not know. The literature on the subject seems as a thing that is yet to be, and beyond a few short notes in foreign newspapers, little has been written on the subject. According to them, however, it seems that one Dr. Dencer Whittles, who lectures on dental histology and pathology at Birmingham University, England, started the "craw-craw" panic. He declares that "the disease exists in Birmingham, having been brought from Africa, and states that 'sometimes the nematode worm is distinctly shown in the blood films.'" Now we know that the *Nematoidea* are a species of intestinal parasites, and if the indulgence in a few kisses, more or less, is to be followed in the adult by a necessity for a vermifuge, the situation has become acute and resembles that of the man who, besieged in a tree by a bear, asked his companion if he could pray? "No," he replied, "but *something* has got to be done."

What this "something" will be it is difficult to say, probably nothing. The kiss has existed since the days of creation and, as someone said, resembles it inasmuch as "it is made from nothing and God knows that it is good." Boys will be boys, and girls, too, will be—girls, when they are with them. As to these preliminary ablutions, these antiseptic precautions, tut, tut, youth will have its fling and its kiss too, and few, if any, with the exception perhaps of Dowie's apocryphally un-kissed son, will be found ready to enroll themselves in the anointed hosts of "Dr. J. F. Biehan, bacteriologist for the city of Chicago." The American youth has never proved a laggard in love, nor a craven in war, and should he be unwilling now to run the chances taken by the classic monkey with the baboon's sister, he must indeed have been begotten of some forgotten strain derived from Joseph and the chaste Susanna.

There is, to be sure, a society of good women, located at St. Louis, the members of which wear a red button to show the world at large that they will not kiss their friends on meeting, or delay the electric cars at the street corners while they bid their fond adieux. This, however, is not a case of mixed pickles, or a scene from a problem play, but resembles rather the fight-at-Finnegan's wake, where it was simply a question of "woman

to woman and man to man," and with this part of the equation we have nothing to do. Kissing proverbially goes by favor and not by legislation, and if women do not desire to kiss each other it is not only well, but it is also well enough to let alone. It was not a woman that Judas betrayed with his kiss, nor did Almásor succeed in spreading the plague in the Moorish camp with his fever-stricken lips.

There may be a worm in the bud in the cupid's bow of fresh young lips in Chicago and St. Louis, that has not as yet reached New York or Boston, but even were this so, we do not think that our youngsters will fear to look the gift-horse fairly in the mouth. As to the older members of the community, whose clustering locks are growing gray and whose heads are bending low, they may perhaps have outgrown the halcyon days of "oats, beets, beans and barley grows," and have forgotten the delirious delights of "pillows and keys." If so, they can adopt the straight prohibition ticket of St. Louis or elect the local option (misfortunes, it would seem, never come single, even in Chicago) of the Biehan brothers. But a touch of fellow-feeling makes the whole world akin, and we doubt if one will fear to tread where his juniors have so recklessly rushed in. Should he die from the effects, then indeed has he earned the trite epitaph of the western engineer, "He did his damndest—angels can do no more."

## ECHOES AND NEWS.

### NEW YORK.

**American Electrotherapeutic Society.**—The fifteenth annual meeting of this society will be held at the New York Academy of Medicine, Nos. 17, 19 and 21 West Forty-third Street, New York, on Tuesday, Wednesday and Thursday, September 19, 20 and 21, 1905.

**Medical Society of the State of New York.**—The new officers of this Society are as follows: President, Dr. Joseph D. Bryant, of New York City; Vice-President, Herman R. Ainsworth, of Addison, N. Y.; Secretary, Frederic C. Curtis, of Albany, N. Y.; and Treasurer, O. D. Ball, of Albany, N. Y.

**\$5,000 for the Post-Graduate.**—The work of the New York Post-Graduate Medical School and Hospital has been recognized by a friend of the institution, who has given it \$5,000. The gift was made anonymously through a member of the corporation, and was announced by Dr. D. B. St. John Roosa.

**Mount Sinai Alumni.**—The eighth annual reunion and dinner of the Associated Alumni of Mount Sinai Hospital was held at the Freundschaft Society, Wednesday evening, January 25. The following officers were elected for the ensuing year: President, Dr. Fred. Mandelbaum; Vice-president, Dr. Louis Houswirth; Treasurer, Dr. Andrew Green Foord, and Secretary, Dr. Leo B. Meyer.

**Work of the Hospital Book Society.**—In the thirtieth annual report of the Hospital Book and Newspaper Society it is shown that 6,980 books, 33,885 magazines, and 56,200 weekly and illustrated papers were distributed during the year, in addition to the 240,000 magazines and papers collected from the boxes scattered throughout the town. For the work of collection and distribution, the society asks for \$500. Reading matter will be received at No. 105 East Twenty-second Street, and Mrs. J. O. Green, No. 13 Lexington Avenue, will acknowledge donations of money.

**Standing Deficit of the Orthopedic Hospital Wiped Out.**—That the \$22,000 standing deficit of the New York Orthopedic Dispensary and Hospital had been wiped out last year, was the special announcement made at the recent annual meeting of the hospital at No. 126 East Fifty-ninth Street. The deficit was paid up, moreover, in spite of the fact that the running expenses, which amounted last year to \$37,000, ran \$7,000 ahead of the income. To carry on the hospital's work without debt, O. Egerton Schmidt, its president, appealed to have the endowment increased from \$102,000 to \$200,000. Out of the 4,017 cases treated last year, 300 were cured, 497 relieved, and 2,813 are still being treated. Only one patient was discharged as incurable. The institution founded last summer a home for convalescents at White Plains.

**Bill to Restore Local Boards.**—Former Charities Commissioner Homer Folks, of New York, conferred with Gov. Higgins within the last few days and showed him a brief prepared to go with the introduction of a bill into the legislature to carry out the recommendations of the Governor made in his annual message that local board of State hospitals for the insane be restored the power of management given them save as to the finances, which would continue to be supervised by the State Lunacy Commission. While the measure has not yet been put in, it is expected that it will appear in the legislature in a few days. Last week the Governor talked with President Mabon and Commissioner Daniel S. Lockwood, of the Lunacy Commission, regarding changes in the law to bring about the exercise of greater care as to commitments of persons believed to be insane.

**Cornell Lectures.**—The Cornell University Medical College will continue this year the courses instituted last season in lectures upon special subjects connected with general medicine and general surgery. Dr. Charles L. Gibson, Dr. Ellsworth Eliot, Jr., Dr. E. L. Keyes, Jr., will each give about six lectures on topics connected with general surgery. Drs. L. A. Conner, M. C. Schlapp, C. N. B. Camac, O. H. Schultze, will lecture on topics connected with general medicine. Dr. John McGaw Woodbury, the present Commissioner of Street Cleaning, has promised to deliver several lectures upon Municipal Sanitation. These lectures are given to the third and fourth year students, and have been found of great value in the elucidation of subjects in which the lecturer has demonstrated his proficiency. At the same time they are of value to the Faculty, who are thus able to obtain knowledge of the latest advancement made in college laboratories.

**Monday Club.**—At the meeting of the Monday Club, on January 30, the evening was devoted to a discussion of the tuberculosis situation. This club is composed of the paid charity workers of the city, and the problem in question is a vital one in their



work. Encouraging reports were received of the seashore colony of the tuberculosis children, and also from the work of the Vanderbilt clinic in providing nursing and advice for the poor in their homes. The outdoor cure seems to be the salvation in any situation, and the nurses show infinite ingenuity in securing it for their patients. The photographs which illustrated the report showed alternately the sleeping quarters occupied by patients before being taken in charge and those devised for them since. Hammocks on the roof of a double-decker tenement are a frequent resource, and even in the deadly "Lung block" a woman had been taken from a blind cell to repose, warmly wrapped, on the fire escape.

**Ophthalmic Hospital's Needs.**—With the constant increase in the number of patients treated in the New York Ophthalmic Hospital, the staff has so studied the problem of making its old funds and facilities cover its new demands, that, according to the fifty-third annual report, they have decreased the cost of each house patient from \$2.79 per diem ten years ago to \$2.21 at present. Strict economy, moreover, in space, has enabled the increased work to be conducted in the old building at the corner of Twenty-third Street and Third Avenue, built in 1871 with the \$100,000 gift of Mrs. Henry A. Keep. But the demands for special treatment of the diseases of the eye, the ear, and the throat, have at last grown so great that many applicants have to be turned away, and the patients received must be hurried out of the wards before they really ought to go, in order to make room for others. More than 15,000 patients suffering from diseases of the eye, ear, and throat, received treatment from the hospital free of charge last year. This number included natives of thirty-six countries from all over the world, the Germans and the Irish being the most numerous after the citizens of the United States. The total income for the year was \$33,414.56. As the institution is not endowed, the expenses necessary to its maintenance have to be met through the efforts of interested friends through additions to the list, and through visitations by a paid solicitor.

**Aural Institute's Fund.**—According to the thirty-fifth annual report of the New York Ophthalmic and Aural Institute, \$200,000 of the \$500,000 needed for the erection of its new building at the corner of Central Park West and Sixty-fourth Street has already been raised. The change of quarters has been rendered necessary by the fact that in the thirty-five years of its existence, the Institute, in its double character of a dispensary and hospital for the treatment of diseases of the eye and ear and their accessory parts, and of a School of Ophthalmology and Otology, has completely outgrown its present quarters. The School of Ophthalmology and Otology connected with the Institute continues its important educational work in the training of specialists. It is open only to graduates of medicine, and those who take the courses are entitled to certificates of attendance, and, in case of special examinations, certificates of proficiency. The best time for the students to begin work is the first day of October. A course extending from that time to the middle of June will be sufficient for graduates of medicine to familiarize themselves with the anatomy and physiology of the visual, auditory, and olfactory organs, as well as with the symptoms and treatment of all forms of disease of the eye and ear and the parts in relation therewith, in particular the nose and the

accessory cavities, also the throat and the cranial cavity, as far as they cause or complicate eye and ear disease. The course will make students proficient in physical diagnosis (ophthalmoscopy, otoscopy, laryngoscopy), the determination of acuteness of sight and hearing, the systematic examination and judicious treatment of the eye, the anomalies of retraction, accommodation, motility, as well as diagnosis and treatment of organic and functional diseases of the eye, ear, and nose, and their cranial and vascular complications, and the performance of operations. As an important accessory to its work and influence, the medical director founded an international medical journal, *The Archives of Ophthalmology and Otology*, published in English and in German. The endowment of the Institute is only \$50,000, and it depends for its support largely on contributions. The total number of hospital inmates last year was 17,226, and the total number of operations 30,567. Since the institute was inaugurated thirty-five years ago, there have been treated in the hospital and dispensary 288,845 patients altogether.

## PHILADELPHIA.

**Ferry-House Quarantined.**—Owing to the death of a colored woman upon a ferry-boat plying between Philadelphia and Camden some thirty passengers were held, because the woman's death was said to be due to smallpox.

**Abortionist Convicted.**—Judge von Moschzicker sentenced Mrs. Ashmead to three years' imprisonment in the Eastern Penitentiary for malpractice, but the remaining bills against her as well as those against Dr. McVicker and DeWitt Ashmead were submitted by the Judge.

**Cancer Annex Opened.**—The Philadelphia Home for Incurables erected a new three-story brick building expressly for incurable cases of carcinoma. The building cost \$60,000; it was begun last May and finished a week ago; it has tile floors, doors without molding and accommodates twenty-five patients.

**Metropolitan Surgeon Holds Clinics at the German Hospital.**—Prince Skillella, who is the guest of Dr. John B. Deaver, held clinics daily during his stay in the city. At these clinics he illustrated the "Skillella Operation" for the cure of hernia, which was devised by his father, the famous Italian surgeon.

**Lenient Standard of Drugs.**—At the annual dinner of the Philadelphia Drug Exchange Prof. J. P. Remington said they would show in the new edition of the Pharmacopeia that pure chemicals and drugs were not absolutely necessary, for instance, he continued, 99 per cent. pure quinine is just as good as 100 per cent. pure, provided the one per cent. is not a non-injurious ingredient. Dr. Henry Beates, at the same dinner, denounced the "cure-alls," the Christian Scientists and also pointed out the evil wrought by handling patent medicines.

**Aid for Consumptives.**—A bill has been prepared by Dr. R. N. Wilson, which is to be introduced into the legislature by Senator Scott in the near future. The bill provides for an appropriation of \$500,000 for the establishment of camps, hospitals and dispensaries in a section of not less than 500 acres of State Forestry Reservation in Pike County. They are to be established under a tuberculosis commission of nine and are to accommodate at least 500 patients at all times. The minimum period of treatment of each patient shall be three months.

**Anchylostoma Duodenale Not a Bogy.**—In his lecture before the students and members of the faculty of the Medico-Chirurgical College Dr. Rosenau, Director of the Hygienic Laboratories of the United States Public Health and Marine Hospital Service, said that while the tropical anemia due to the *Anchylostoma duodenale* is prevalent in the tropics it can be cured. He also told his audience that 90 per cent. of the Porto Rican population were infected with this disease and that 30 per cent. of them die from the anemia due to the *Anchylostoma*. Tropical malaria is the most fatal disease of the tropics, he said, and is much more difficult to cure than the ordinary quartan or tertian type of malaria.

**Free Public Lectures.**—The Department of Medicine of the University of Pennsylvania has announced that a series of lectures will be delivered in the new laboratories upon the subjects of hygiene and medicine. While arranged especially for instruction of the fourth year student members of the medical profession of Philadelphia are also invited. Dr. Leonard Pearson will deliver two lectures upon the "Milk Supplies of the Cities"; one lecture will be given on February 6, the other the 13. Dr. J. F. Schamberg will speak of "Vaccination" on February 20 and on the 27 he will give a demonstration upon "The Eruptive Fevers." On March 6 and 13 Dr. Edward C. Kirk will speak upon "The Medical Relationship of Certain Dental and Oral Disorders." Dr. A. P. Francine will lecture upon the "Restriction and Prevention of Pulmonary Tuberculosis." On March 27 Dr. R. Tait McKenzie will speak upon "The Therapeutics of Exercise." Dr. Joseph Sailer will deliver the two closing lectures on April 3 and 10. He will speak on "Hydrotherapy."

**Neurological Society Meeting.**—This was held January 24, 1905. Dr. W. C. Pickett exhibited for Dr. L. C. Peters "A Case of Cervical Hypertrophic Pachymeningitis." Dr. Pickett informed the Society that the patient had pain in the back and shoulders which, according to the patient's story, came on seven days after the onset of peritonitis. The latter disease was probably of gonococcal origin. He also called attention to the wasting of the thenar and hyperthenar eminences, the flattening of the hands giving the "claw-hand," and the exaggeration of the knee-jerk. Dr. C. W. Burr exhibited "A Case of Epilepsy with Myoclonus." He had seen the same case in 1896 when he gathered that the patient suffered with fits at the age of sixteen months; these were minor in type. After a time the child was free from epilepsy for about twelve months, when the attacks again recurred; now the fits were more frequent and more severe. Then there was another period of latency. The child then developed twitching of the muscles of the face and shoulders, but the intellect at this time was clear. A short time ago the patient again came under his care, and when he first saw the boy he was suffering with violent choreiform movements and, visual hallucinations. In the course of forty-eight hours the patient became quiet but developed major epilepsy, which was followed by muscular spasm. The myoclonus sometimes came before the epileptic attack, sometimes after it, but most frequently independent of the convulsions. Voluntary movements appear to exaggerate the myoclonus. When the patient's eyes are turned to one side nystagmus is present. The mental condition of the patient is not as bad as it was

during the first forty-eight hours in the hospital. Dr. William G. Spiller and Dr. E. U. Buckman reported "A Case of Myasthenia Gravis in which the paresis is confined to the Ocular Muscles." Dr. Spiller informed the Society that this was the first case reported in the English literature and that but three or four have been reported in the German literature. The patient first noticed in April of 1904, that things looked crooked and that he saw double, but could see all right with either eye alone. Now he finds that his eyes are not so easily opened in the morning as some time later in the day. After one eye has been used for some time the lid of the corresponding eye begins to droop, and when it reaches the pupil the other lid begins to fall. When the eyes are closed for a time the patient is again able to open them. There is no evidence of disease of the nervous system at any other point nor has the patient ever had syphilis, and antisyphilitic treatment was not followed by improvement. Dr. Joseph McCool, by invitation, reported "Four Cases of Beriberi." These cases were seen at Marcus Hook, two last summer and the other two only recently; all were from vessels that had come from the Sandwich Islands and had been on board vessel for at least 150 days. He pointed out the predisposing causes, as unhygienic surroundings, insufficiently cooked and a lack of nitrogenous foods. He noted that the disease has been attributed as being due to a specific organism. Some of the cases were of the dry and others were of the atrophic form. They all began with pains, stiffness, tingling and numbness in the ankles, feet and legs which was followed by swelling in few. There was always present dyspnea and distress in the epigastrium. Dr. T. H. Weisenberg read a paper on "The Pathology of Cerebellar Tumors." He informed the Society that the greater number of tumors of the brain in his collection were sarcoma. He noted that in some instances cerebellar tumors produce no symptoms, while in other cases there are symptoms of cerebellar tumors but no growth. He related an instance where the diagnosis of such a condition was made but operation failed to disclose the new growth and the patient left the hospital apparently cured.

**Meeting of the Pathological Society.**—This meeting was held on January 26, 1905. Dr. Coplin read two papers, one entitled "Some Improvements in the Petri-Dish-Plate-Gelatin Method of Mounting Gross Specimens," and the other "Celloidin Strips and Sheets for the orientation of Gross Specimens and in Such a Way as to Facilitate the Removal of Parts for Microscopical Study and Subsequent Identification of the Areas from which Such Blocks of Tissue Have been Removed." In the first paper he showed how the gelatin could be substituted by plaster-of-Paris. Dr. Loeb read a paper upon "Some Recent Contributions to the Study of the Coagulation of the Blood." He pointed out that mechanical factors are very important in aiding the coagulation of the blood. Bacteria influence the process, and this influence is especially seen in the production of thrombi. He maintains that certain bacteria are more powerful than others in inducing this change, as for instance, the *Staphylococcus pyogenes aureus* is a more powerful aid in coagulation than the *Bacillus coli communis*. Although the coagulins of the blood and the coagulins of the tissue have the same property they are not identical. He also stated that in all probability the coagulins of the blood and those of the tissues act independently upon the



fibrinogen and also act upon each other. Both, he said, are derivatives of the cells. Authors who object to the latter view maintain that if such were the case, why would not fibrin formation be going on continuously, for blood cells are constantly being destroyed in the blood and then the coagulins would be present at all time. Loeb meets this objection by saying, in the first place, as these cells die they may contain very little active substances, but if they should, these substances are destroyed by antibodies, for he found agents in the serum of a dog which inhibited coagulation. Dr. H. C. Wood, Jr., read a paper on "The Clinical Means of Increasing the Coagulability of the Blood." These drugs, he said, which contract the arterioles are dangerous in concealed hemorrhages, as they may prevent the formation of thrombi. He maintained that an excess of calcium salts in the blood increases the coagulation time, and that hypodermic injection of gelatin is dangerous because this substance is so difficult to sterilize, and then, too, it may contain a tetanotoxin which is not at all destroyed by heat. When gelatin is taken by mouth and digested it does not lose its power to coagulate blood, for by artificial digestion he obtained a substance that is equally efficacious in the production of coagulation as is the gelatin itself. Dr. R. P. Reynolds read a paper on "Interstitial Fibroids as a Complication of Pregnancy." Dr. B. M. Anspach showed several specimens of fibroids which complicated pregnancy. Dr. John Funke showed a specimen of carcinoma of the gall-bladder with metastasis to the liver. The gall-bladder was filled with bile sand and the common duct contained two calculi, one was located near the ampulla of Vater.

#### CHICAGO.

**Appointment of Dr. Barker.**—Dr. L. F. Barker, of the University of Chicago, has been appointed to a professorship in medicine in that institution by the Board of Trustees of Rush Medical College.

**Popular Lectures for the Laity on Medical Topics.**—Under the auspices of the Visiting Nurses' Association two hundred lectures on topics pertaining to medicine and sanitation will be delivered in Chicago this winter.

**Warning to Hospital Staff.**—President Brundage, of the County Board of Commissioners, in some prefatory remarks to the newly-appointed members of the Cook County Hospital Staff, said that they had been selected as members of the hospital staff without pull, political or otherwise. He gave them to understand that if they did not live up to the rules governing the institution, no pull of any kind would stand in the way of their resignation being asked for.

**First Aid Magazine.**—It is said that a 24-page magazine, under the title of *First Aid*, to be devoted to literature and science, edited by a staff of physicians and women prominent in the professional and social world, and issued monthly as the official organ of the American White Cross Aid Society, will appear early in March. Edward Howe is to be the Managing Editor. Among those who are mentioned as constituting the scientific staff are Drs. Nicholas Senn, John B. Murphy, Chas. Adams, Geo. W. Webster, Frank Billings, J. B. Herrick, John Ridlon, N. S. Davis, H. B. Favill, and Wm. E. Quine.

**Invitation to Child Study Expert.**—Of the multitude of college and university men who make pretensions to the title of "Physiologico-Psychological

Expert," only eight have been found in the United States who are out of jobs and competent to serve as assistants in the child study department of public schools. This fact was developed at a meeting of the school management committee, when the trustees, after reviewing the results of the canvass for candidates, that covered every large educational center in the country, finally invited Dr. Frank G. Brunner to come from Columbia University to try for the position.

**Tuberculosis.**—Dr. Arnold C. Klebs recently delivered a lecture in this course on tuberculosis, and declared that the loss in Chicago annually by consumption was enormous. He quoted experts on the extreme ravages of the disease in the United States. The total was given at 150,000 at an average age of thirty-five years. He urged his hearers not to look on the consumptive as a leper, but to remember that the victim becomes, by right living, no menace in himself, and that the distribution of germs through drying of the sputum and their propagation through lack of cleanliness and sanitation were the real dangers.

**How to Live.**—Dr. George F. Butler recently delivered an address on this subject under the auspices of the Chicago Medical Society, to an audience of 600 people in the Public Library Building. The address was replete with epigrammatic sentences, and may be summed up in this wise: "It has been said that it is better to be born lucky than rich, but it is in fact better to be born tough than either lucky or rich. After forty, eat less and eliminate more. Drink more pure water and keep the peristaltic wave of prosperity constantly moving down the alimentary canal. Many people suffer from too much business and not enough health. When such is the case, they had better cut out business and society for a time, and come down to mush and milk and first principles. Don't be foolish. Eat less and play more. Indulge in less fret and fume and more fruit and fun. There are people too indolent to be healthy—literally too lazy to live. Work your brains and keep in touch with people. Do something for others and forget yourselves. There is nothing so insane and detrimental to mind and health as the conversation of people on their aches and pains and troubles. The froth of whipped eggs is a tonic compared to it. All our appetites are conditional. Enjoyment depends upon the scarcity. A worker in any field, whose age is near either the shady or sunny side of fifty, should consider himself in his prime, good for another half century of temperate, judicious work. Let grandma wear bright ribbons and gaudy gowns if the colors become her, and let grandpa be as dudish as he pleases, with flashy neckties and cheerful garb. Both will be younger for it, and, besides, it is in harmony with nature. Gray hair is honorable; that which is dyed is an abomination before the Lord. Cultivate thankfulness and cheerfulness. An ounce of good cheer is worth a pound of melancholy."

#### CANADA.

**Provincial Sanitarium for British Columbia.**—Dr. C. J. Fagan, secretary of the Board of Health for British Columbia, and who is the father of the movement in that province for a provincial sanitarium, announces that the British Columbia Association for the Prevention of Tuberculosis has resolved to delay no longer, but will at once get to work and have a sanitarium ready for the occupation

of patients by June 1 of the present year. Dr. Fagan will tour British Columbia in an endeavor to raise the necessary funds for the erection of the institution. In the meantime the Anti-Tuberculosis League have made overtures for renting the Royal Naval Hospital at Esquimalt, which the admiralty will shortly abandon.

**Reunion of the Toronto General Hospital Surgeons.**—There was held in Toronto on December 29, a reunion of the house surgeons of the Toronto General Hospital in 1892-1893. One of these, Dr. J. N. E. Brown, came all the way from Dawson, where he occupies the position of Territorial Secretary. Dr. Charles O'Reilly, the Medical Superintendent, stated that since 1876 there had been passed through the hospital 220 house surgeons, all of whom, after a period of twenty-eight years, were alive with the exception of eight. The proposal to inaugurate an Association of Ex-House Surgeons of the Toronto General Hospital met with marked favor.

**Toronto General Hospital.**—Mr. George Gooderham, of Toronto, after a service on the Board of Governors extending over a period of twenty years, has retired from active participation in the work of the Toronto General Hospital, and he has been succeeded by Mr. Cawthra Mulock, who a short time ago donated \$100,000 to the institution. Mr. Gooderham announced that he would in the near future make a generous donation to the hospital, toward a new building. It is proposed to raise \$1,000,000 by private, civic and Government subscription, and in addition to being an hospital for all classes of diseases, excepting infectious diseases, will as well provide facilities for educational purposes in connection with the Medical Faculty of Toronto University.

**Results Achieved with Diphtheria Antitoxin in the Toronto Isolation Hospital.**—In the January issue of the *Canadian Practitioner and Review*, Professor Shuttleworth, bacteriologist to the Toronto Board of Health, gives the results of the use of diphtheria antitoxin in the Toronto Isolation Hospital. The first experiments were made in 1894 and were continued up to the close of 1898, during which time 157 cases were treated with the diphtheria antitoxin, with a mortality of 21.6 per cent., and an average hospital term of 25.4 days for non-fatal cases. The average hospital mortality for the period was 14.3 per cent. and the term was 23.5 days. The treatment on these results not being satisfactory, it was almost abandoned in 1899, but was revived in 1900, when 62 patients were treated in the hospital, and 20 others to whom it had been given before admission. Of this series of 82 cases 20.7 per cent. were fatal. The ordinary hospital mortality for that year was 14.8 per cent. The following year there were 119 hospital and 35 outside cases, of whom 17.5 per cent. died, the annual hospital rate being 13.4 per cent. In 1902 there were only 105 antitoxin cases, most of which had been treated by their own physicians before admission. In this year the mortality was for the first time under that of the ordinary hospital rate, being 14.3 and 15.6, respectively. The total number of antitoxin cases treated since 1894 in the Toronto hospital amounted to 508, with 95 deaths, or 18.7 per cent. The average hospital mortality for the same period is 14.0.

#### GENERAL.

**Herter Lectureship.**—Dr. Hans H. Meyer, professor of pharmacology in the University of Vienna,

has accepted an invitation to deliver the second course of Herter lectures at the Johns Hopkins Medical School next October.

**Triumph of Jap Field Surgeons.**—Statistics from the chief surgeon of Gen. Oku's army prove that the army surgeons and field hospitals have scored a triumph in surgery and medicine. There have been only forty deaths from disease in the whole army since the landing on May 6. Up to December 1 24,642 cases of disease were treated. Eighteen thousand five hundred and seventy-eight patients recovered, 5,609 were sent to Japan, 40 died, and the rest are still under treatment.

**Auto Ambulances for the Army.**—Plans have been prepared in the office of the surgeon-general for an automobile ambulance. If these designs can be carried out by automobile manufacturers, it seems likely that steam carriages fitted up with ambulance facilities will take the place of the present style of vehicles drawn by horses. With a view to thoroughly testing this scheme, the department has ordered Captain Clyde S. Ford, assistant surgeon, to Ormond, Fla., to hold a conference there with the automobile manufacturers. Captain Ford is charged with investigating all details of the project, and he will make a report to the Department on its feasibility. The General Staff does not favor the adoption at this time of the automobile as a means of military transportation. Major-Gen. Corbin, commanding the Philippines Division, recently recommended the purchase of an automobile for the use of military headquarters at Manila in the transportation of officers about the city and vicinity when engaged in purely military duty. The proposition was disapproved by the General Staff and the Secretary.

#### OBITUARY.

Assistant-Surgeon OTTO KOHLHASE died of yellow fever on the cruiser Boston at Panama. He was appointed to the navy in May, 1903, when he was made assistant surgeon. His station on the Boston was given him last November, and was the beginning of his first cruise. Prior to that time he was on the cruiser New York. Last March he was graduated from the Naval Medical School in Washington. Surgeon Kohlhasse was twenty-seven years of age and married.

Dr. B. F. CORY, a veteran of the Civil War and for many years a well-known physician in southern Ohio, died at the residence of his son in Washington last week, at the age of eighty-five years. He was born in Coudersport, Pa., removed to Ohio, and in 1861 was Provost-Marshal of the Eleventh Ohio district. Resigning his office, he raised two regiments of volunteers, in one of which, a cavalry regiment, he served as captain. He served throughout the war, participating in the capture of Morgan, the Confederate cavalry leader.

The Military Secretary at Washington received a cable message from General Corbin, commanding the Philippine division, saying that Contract Surgeon JOSEPH A. O'NEILL was killed at San Francisco de Malabon, January 3, in an attack by Ladronees, and that his body will be sent to the United States on the army transport sailing from Manila on February 15. Dr. O'Neill was a resident of New York, and was appointed a contract surgeon on August 8, 1900. His entire service was in the Philippines. In the winter of 1903 he visited the United States on leave of absence, and on his return to the Philippines he was accompanied by his wife.



## SOCIETY PROCEEDINGS.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Ninety-ninth Annual Meeting held at Albany, January 31, February 1 and 2, 1905.*

The President, Dr. Hamilton F. Wey, of Elmira, in the Chair.

## FIRST DAY—JANUARY 31ST.

Most of the morning session was taken up with reports of the various standing committees. Of these the following seem to be of special interest to the general medical public:

**Reunion Committee Report.**—Dr. Henry L. Elsner, of Syracuse, the chairman of the committee of conference for the union of the New York State Medical Society and New York State Medical Association, detailed the vicissitudes of the attempt at union and its final prevention by a legal technicality. He then read legal opinions as to the necessities for indefeasible combination of the two organizations as regards legality of meetings, special and regular, for the purpose, and made recommendations accordingly. These recommendations were unanimously adopted.

**New Committee of Union.**—Dr. D. B. St. John Roosa, of New York City, then proposed the names of the old committee as a new committee of conference looking to union, with power to make all arrangements, and this was unanimously adopted with applause.

**Committee on Hygiene.**—Dr. John L. Heffron, of Syracuse, reported the attention of the committee as having been drawn to certain subjects of public health with regard to which members of the New York State Society should keep themselves informed. The use of sulphate of copper as an antiseptic for impure water has attracted widespread interest. It would seem, if original reports with regards to it are confirmed, that its employment may serve as a protection against such dangerous water-borne contagious diseases as typhoid fever. As typhoid fever is always more of a rural than an urban disease, and as the precautions against the disease must be more individual than authoritative, the use of some such means should be in the hands of physicians in suspicious circumstances.

**Food Adulteration.**—Special attention was called to the fact that at the present time nearly all forms of food are packed in special packages, and that many of the forms are so prepared that there is temptation to secure their preservation by various forms of antiseptics. The United States Agricultural Department, and various special investigators, have shown that preservatives, of whose ultimate action upon the human organism little is known, are actually being used. It seems then, that for the protection of delicate individuals under their care, physicians should take special precautions and as far as possible encourage such legislative action with regard to the labeling of articles of food containing preservatives, so as to protect the public.

**Wood Alcohol Dangers.**—Recent events have shown that there are serious dangers to the community in the permission to make and sell wood alcohol odorized, and under such names as may deceive the public into a failure to realize its toxicity. The occurrence of many deaths and of blindness in many cases during the past year shows how acute are the risks of negligence in this matter. The suggestion of the committee that legal regulation of the sale of such spirits be secured was adopted.

**Better Situation of Medical Legislation.**—The report of the committee on legislation reported a better feeling among prominent legislators of both legislative

bodies, as regards the legal regulation of the practice of medicine. The committee on legislation are now consulted as to the real significance of and their position as regards contemplated medical legislation. This will make it harder to secure laws allowing the practice of medicine in parts, as is asked by the opticians or others, and will lead to the proper restriction of medical practice in all branches to the fully educated physician. The Society is to be congratulated on this improvement in the attitude of legislators, and it would seem that only a persistence of well-directed effort is needed still further to strengthen the position of the regular profession in its attempts to keep the community from being exploited by quacks and charlatans.

The Secretary, Dr. Frederic C. Curtis, of Albany, then announced the names of 115 candidates for admission as permanent members of the Society, all of whom have fulfilled the preliminary requirements including attendance at three annual meetings.

**Dermatitis Seborrhoica and Baldness.**—The scientific business of the session began with the reading of a paper on this subject by Dr. L. Duncan Bulkley, of New York City. He said that this disease was one of the most important the dermatologist has to treat. Statistics show that it constitutes fully 10 per cent. of all the cutaneous affections seen by the dermatologist. It follows in importance eczema, acne and syphilis in demands on his attention. It is of great importance, because it is now conceded to be at least an important contributing cause to baldness, which is growing so much more common in recent years, and the etiology and consequently successful treatment of which has been so long a mystery. The disease is undoubtedly contagious, though only mildly so. It is distinctly a barber's disease and has spread as a consequence of the universal recourse to these in later generations. The true nature of the micro-organismal cause is not known, however. It differs from such parasitic diseases as barber's itch and favus in being due to a different form of parasite. Various cocci and bacilli have been described as specifically pathogenic, but none of these have stood the inoculation test and when in pure culture reproduced the affection.

**Treatment, General and Local.**—Dr. Bulkley said that the very fact that the infection is of low grade and never virulent seems to indicate that the soil in which the microbes grow is an important element in these cases. There is, however, no internal treatment that can be depended on to bring about improvement, and especially not to ward off baldness. The general health must be cared for and all digestive disturbances especially corrected, but the dependence must be on local treatment. For this the universal agreement as to a parasitic cause makes the indication for a parasiticide imperative. In Dr. Bulkley's experience resorcin and sulphur have been the best remedies. Either of them employed beyond a certain point, and especially resorcin, may give rise to a scaliness not unlike the disease itself. With care such inconvenience can be readily avoided.

**Modify and Complicate Other Affections.**—Dr. Bulkley said that the most important feature of dermatitis seborrhoica is its tendency to co-exist with other diseases, such as eczema and psoriasis and certain forms of syphilitic eruptions, thus complicating the problem of diagnosis and treatment. Wherever it does exist it modifies practically all other skin eruptions, and its manifestations must be carefully eliminated before the diagnosis of the case can be reached. Its frequency is not realized as a rule by the general practitioner of medicine, and this serves as an element of confusion in many skin diseases that would otherwise be easy of recognition and even of treatment.

**Specific Constitutional Treatment.**—Dr. Ralph A. McDonnell, of New Haven, Conn., in discussing Dr. Buckley's paper said that local treatment of the condition supposed to underly developing baldness, has been the watchword for many years, yet very little has been accomplished. The skin specialist receives a case of beginning baldness dubiously and always emphasizes the uncertainty of the prognosis. Parasitocides have not given such results as to inspire confidence. It would seem that baldness and the conditions leading up to it must be considered as of reflex nervous origin as are so many other skin affections and depending on the influence of the digestive tract. Simple acne and acne rosacea, as well as eczema and other skin conditions, are now known to depend for the most part on digestive conditions. No one thinks of treating them without proper regulation of digestion, and the same seems to be true of dermatitis seborrhoica and the other conditions preliminary to baldness.

**Cycloplegics in Determining Refraction.**—Dr. Frank Van Fleet, of New York City, said that the employment of substances that paralyze accommodation is much less frequent now than was the case a few years ago. Not so long since many ophthalmologists considered it almost a crime to fit glasses without the use of atropine or some similarly acting drug. Now it is never used for ophthalmoscopic examinations and much of the ordinary refraction can be accomplished without it. This he considers a fortunate advance in ophthalmological practice, for their use in cases as they come was a source of certain dangers.

**Seeing Not Merely Mechanical.**—Dr. Van Fleet said that vision is not merely a passive quality, but requires attention. The influence of errors of vision is not limited to the eyes themselves, but invades other nervous mechanisms of the body. On the other hand, many bodily ailments are reflected in the eyes and the eye symptoms need to be treated not directly, but through the other affected organs. Hence the necessity for a physician to prescribe glasses, though it has been the custom to suggest that the fitting of glasses was more or less mechanical. Unfortunately, in many States laws have been passed sanctioning such an error, and even to some degree in New York. Further evil of this kind should not be allowed, however.

**Special Cases for Cycloplegics.**—Dr. W. E. Lambert, of New York City, opened the discussion by saying that in certain cases the use of cycloplegics seemed necessary. He instanced the case of convergent strabismus in children, in whom it was impossible properly to study refraction owing to the convergence without paralysis of accommodation. He, too, deprecated the evils of non-medical opticians and instanced two cases in recent practice in one of which a patient suffering from incipient cataract had been given very strong glasses, and in the other the cause for loss of acuity of vision was found not to be the presbyopia that was suspected, but a severe case of hemorrhagic neuroretinitis.

**Atropine Less and Less.**—Dr. Lucien Howe, of Buffalo, said that the use of atropine is becoming rarer. Personally he considers that the use of solutions of such drugs is most inexact medication. It is not known how much stays in the eye or how much is absorbed. He prefers to use these substances in disks, so as to be able to tell just the amount that may be absorbed. Complete cycloplegia, by removing the diaphragm of the camera obscura of the eye, adds some errors of its own to the problem, since the edges of any lens do not refract as well as the central portion and the rays that pass through them serve to disturb the resultant picture.

**Javal's Ophthalmometer.**—Dr. D. B. St. John Roosa said that the great evil among ophthalmologists in America had been the desire for overexactness of correction of the optical error. Personally he considers that the improvement of vision to useful sight without inconvenience rather than the restoration of ideal conditions of refraction is the most desirable. He has found Javal's ophthalmometer, to whose employment he was introduced by the inventor himself, a very useful instrument. After having been an advocate of the paralysis of accommodation he is now among those who, like the most distinguished European authorities, consider it rarely necessary.

**Convergent Squint in Children.**—Dr. Abraham Jacobi said that he considered it unfortunate that atropine should be employed in the treatment of convergent squint in young children. If time be allowed to pass, the child learns to use the originally affected muscle properly and no active treatment beyond care for the general health is needed. Haste in these cases may render permanent a condition that would otherwise be but passing. In general the forces of nature in children are much better than in adults, and due allowance should be made for this.

**Rheumatism and the Eye Muscles.**—Dr. Francis Valk, of New York, said that as the uric acid diathesis causes various forms of muscle trouble in the bodily muscles, so also it may be the origin of symptomatic affections of the ocular muscles. These affections are usually not of a parietic nature, that is, do not exhibit actual loss of motion in the muscles, but they do lead to symptoms of muscle weakness not unlike those seen in the so-called muscular asthenopia. The special character of these symptoms can be shown by such suitable muscle tests as those for the rotation of the eyeballs, under fusion and version. The treatment of these conditions is evidently more general than local, and it is mainly important not to think that the manifestations are local.

**Cholelithiasis Simulating Appendicitis.**—Dr. George G. Lempe, of Albany, described a case in which almost the classic symptoms of appendicitis seemed to be present and all the manifestations were in the right lower quadrant of the abdomen, yet on operation the appendix was found to be perfectly normal, while a search of the right upper quadrant revealed the presence of a large number of gall-stones, to account for the referred pains which had been felt in the appendical region. It seems clear that in some of these cases no differential diagnostic method yet known will enable the surgeon to decide with absolute certainty. Both conditions demand operative intervention and an exploratory laparotomy must be the deciding test.

**Arteriosclerosis and the Nervous System.**—Dr. B. C. Loveland, of Syracuse, suggested that some of the earliest symptoms of arteriosclerosis manifest themselves in the nervous symptoms and may thus be discovered before the occurrence of those serious conditions for which treatment is hopeless. When symptoms are found, there should be a readjustment of diet so as to keep up nutrition but throw no extra work on the organs of elimination. Too great reduction in diet is to be avoided. The habits of life must be changed, so that neither work nor recreation will be of a kind to demand stimulants. If high arterial tension is present, then the amount of water consumed must be limited. Otherwise, a good, liberal allowance of water each day should be insisted on. The iodides in some form should be given, and Dr. Loveland has found the proto-iodide of mercury in gr.  $\frac{1}{4}$  to  $\frac{1}{2}$  the best and least likely to cause stomach disturbance. Aconite and certain of the



nitrites may be administered over months, so as to keep the arterial tension low and lessen the strain upon the heart and lungs.

**Amblyopia ex Anopsia.**—Dr. D. B. St. John Roosa discussed the question of the loss of vision in an eye from disuse, such as happens in cases of squint, where one eye is not equal to its fellow in visual power, the image from it is gradually so neglected that the eye loses its power of seeing. It has been said that such eye never recover their vision, and so good an authority as Dr. Priestly Smith did not hesitate to affirm that recovery of sight cannot be expected to occur in such cases. Dr. Roosa reported a case in which, though the man had lost vision in his right eye in this way and used his left for all seeing purposes, an accident to his left eye being followed by the loss of vision in it, he gradually regained the use of the eye, blind from early youth, from disuse. Dr. Roosa said that there were a few cases like this in the literature.

**Cerebral Lack of Vision.**—Dr. Van Fleet said that in these cases there seems to be a failure of the visual center for the recognition of images from the disused eye to develop. This being a basic difficulty, it is hard to get patients to exercise enough to bring about development later in life. If, as in this case, the loss of the other eye compels them to use the defective eye, the development is completed. It usually requires, as in this case, several years, but vision gradually grows better and better.

**Visual Exercises.**—Dr. Lucien Howe, of Buffalo, said that theory is plentiful on this subject, but the observed facts are few. Cases like Dr. Roosa's have been observed before, but only where the sight of the former seeing eye was destroyed. There seems no doubt that with enough patience and by appropriate methods the other eye may be educated. Dr. Howe uses the stereoscope for this purpose, not the ordinary instrument, but one in which the lenses are so arranged that the visual power of the seeing eye is reduced so as to adapt it to the defective visual organ. In this way an education of nerves and nerve centers may be successfully brought about.

Dr. Francis Valk said that there may be a congenital amblyopia from which any improvement seems hopeless. Other forms of amblyopia from disuse, when of high degree, are cured if vision be totally lost in the other eye.

Dr. A. E. Davis, of New York, said that amblyopia may be cured by proper exercises and then relapse from neglect. He detailed the case of a clergyman who, after operation, had taken the proper exercises and could use both eyes, yet, later, lost the power of fusion.

**Biliary Drainage.**—Dr. Eugene A. Smith, of Buffalo, showed by the details of some 25 cases of biliary disease, operated upon during the last two years, that drainage of the biliary region after operation always gives the most satisfactory results. Drainage is wise in at least 90 per cent. of the cases. As a matter of fact, it lessens the tendency to relapse and to the persistence of low grade symptoms that may lead to unfortunate pathological developments. Deaver insists that biliary cirrhosis is due to biliary obstruction. If this has continued for some time, drainage serves as a derivative to prevent further damage to liver tissues and enable the organ to throw off offending material. In Dr. Smith's experience cholecystectomy, though spoken of as the ideal operation, is not so good an operation in the long run as cholecystostomy. The latter can be accomplished without so much risk, the mortality being 6 per cent. for cholecystectomy and 2 per cent. for cholecystostomy. In this the gall-bladder can be stitched to the abdominal wall and drainage is easily obtained.

The symposium on cerebrospinal meningitis was opened by Prof. W. T. Councilman, of Boston, who read a paper on pathology and bacteriology of disease.

**Pathology of Epidemic Meningitis.**—Dr. Councilman called attention to the fact that the inflammation involves not only the serous membranes of the brain, but also the brain itself. The disease therefore deserves the name of meningo-encephalitis. The infection may take place by the blood or by extension from some other organ. The possibility of infection from the eye or from the nose has been discussed by many pathologists, though the definite mode of entering is not yet known. All of the cord and brain may be affected, but in most cases the spinal cord is more affected and in consequence the symptoms from it are more noticeable.

**Cause of the Disease.**—There seems to be no doubt now that the cause of the disease is the *Diplococcus intracellularis*. A corresponding affection may be caused by the pneumococcus or by the streptococcus, but these are distinct diseases and are much more fatal as a rule than epidemics or even spinal meningitis itself. The *Diplococcus intracellularis* was discovered by Weichselbaum, who found it as a quasi-inhabitant of the mucous membranes of some parts of the body. In the epidemic of the disease, studied in 1897 in Massachusetts, 31 of the 35 cases proved to have this as the causative agent when examined for this purpose. The micro-organism was found in the fluid taken from the spinal canal by means of lumbar puncture. It was found in all the acute cases. It was absent only in the chronic cases. All the patients whose symptoms had lasted less than seven days had the micro-organism in their spinal fluid. In those in whom it was not found the symptoms had been present for more than seventeen days.

**Culture Peculiarities.**—One reason for the absence of the diplococcus of Weichselbaum in the chronic cases is that the micro-organism has a tendency to die out quickly on any kind of culture medium, and that evidently the comparatively favorable location in the fluids of the spinal cord and the surface of the brain is not sufficiently appropriate to prolong their existence. In the laboratory it is rather difficult to grow the micro-organism successfully. It has not much effect as a rule on the ordinary laboratory animals.

**Endemic and Epidemic.**—The present status of the knowledge of the disease seems to show that it occurs in epidemic form at more or less regular intervals, it is more or less endemic in this country and sporadic cases are constantly occurring. The first epidemic of the disease in this country was described by Danielson and Mann, and occurred in Massachusetts during 1806. The epidemic may last a short time and yet may prove very fatal. Some of the epidemics had a fatality of as high as 75 per cent. Nearly all of them have a mortality of over 50 per cent., and even sporadically the disease seems very fatal. During epidemics, however, it seems to possess a special virulence. It is probable that more frequently the disease is missed than is thought, while only rarely does it happen that some other affection is taken for it.

**Comparative Fatality of Meningitis.**—In all cases in which the pneumococcus and streptococcus have been found in the spinal fluid after lumbar puncture the disease has ended fatally. It is evident then that on the delicate tissues of the central nervous system these micro-organisms are more severe even than the diplococcus of cerebral spinal meningitis. It has been thought that the diplococcus may live on the nasal mucous membrane and a number of instances of its being found there have been reported. It seems very probable that there has been a mistake in this. The *Micrococcus catarrhalis* of Pfeiffer occurs very com-

monly in the nose and is rather easily mistaken for Weichselbaum's coccus. There are a few cases, however, in which there seems to be but little that it was present in the nasal secretion. Probably these cases will serve as the basis for the explanation of the mode of entrance of the micro-organism into the central nervous system.

**Symptomatology.**—Dr. H. L. Elsner, of Syracuse, said that the affection now known as epidemic cerebrospinal meningitis is nearly always present in or around Syracuse. Through the Board of Health in New York he has obtained statistics which show that cases of the disease are occurring practically always in New York City. In 1904, as a consequence of the epidemic there, 1,010 deaths from the disease were reported. This epidemic did not reach Central New York. There has been an epidemic within the last two years, and, curiously enough, though cases of the affection turn up at the hospital rather often, none were admitted to the wards during the epidemic. It is clear that the disease deserves the name of endemic more than epidemic, though there are times when it becomes epidemic.

**Surroundings of Disease.**—It usually occurs in the homes of the poor, but may be found under good sanitary conditions. It may exist among a large crowd of men, and yet fail to affect many of them. A typical example of this is the epidemic of the disease which occurred on board the U. S. S. Minneapolis ten years ago. One thousand four hundred and fifty men were on the vessel, which was supposed to have accommodations for only about 500. Notwithstanding this crowding, which was evidently one of the underlying reasons for the outbreak of the disease, only 23 men became infected, and of these only six died. The epidemic was not of great virulence. German observers have insisted that the epidemic meningitis is more benign than other forms of meningitis, especially those due to the pus cocci or to the pneumococcus.

**Association of Nervous Affections.**—Other infected diseases of the central system seem not infrequently to run their course alongside of epidemic cerebrospinal meningitis, bearing some sort of relation to it. It has been noted, for instance, that a series of cases of acute anterior poliomyelitis has occurred simultaneously with epidemic meningitis. Landry's paralysis, which is an ascending affection of the spinal cord, has also been known to occur in groups in association with epidemic meningitis. House epidemics of the disease are not infrequent, though it is usually the case to have only one patient in the household. A predisposing cause of the disease seems to be a state of mental fatigue. Occasionally the disease does not confine itself to the central nervous system, but produces metastatic lesions, especially in the joints.

**Kernig's Symptom.**—This is present in a great majority of the cases, probably more than four out of every five. At times, however, it is not present in typical cases, and it cannot be depended upon for absolute diagnosis. On the other hand, it is occasionally seen in patients suffering from other affections, as for example, typhoid fever, in which there is some irritation of the central nervous system. An important diagnostic help is lumbar puncture. It used to be considered that the appearance of the fluid as it issued from the spinal canal, gave important information as to the diagnosis. If fibrin and flocculi were present the disease was considered to be tuberculous. These gross morbid appearances are now known to be pathognomonic, and are not to be depended upon. The important factor for absolute diagnosis is the demonstration of the *Diplococcus intracellularis*.

**Treatment of the Disease.**—Dr. Charles G. Stockton, of Buffalo, said that it is a difficult matter to secure any form of treatment for a disease which is self-limited, or which has a very varying mortality in various epidemics. For preventive treatment a sanitarium is needed rather than a therapist. The disease undoubtedly occurs as the result of crowding and filth and insanitary surroundings. Surprisingly enough, it is sometimes found under the best sanitary conditions. It would seem as though the disease acquired virulence enough in the slums to enable it to invade even the homes of those who live under better conditions. The old treatment of the disease was by means of blood-letting and mercury, with liberal doses of opium. Besides this, ice was used locally and ergot was administered internally. It is questionable whether these remedies will have to be given up, or whether any newer method proves to be more efficacious in checking the disease.

**Present-Day Remedies.**—Three forms of more or less novel treatment have been suggested within the last decade or so. The first of these is the hot bath suggested by Aufrecht. The second is the puncture of the spinal canal to reduce the pressure within the cord, and then also to inject various remedies that may have a local antiseptic action. The third method of treatment is by injections of bichloride of mercury beneath the skin in the neighborhood of the spine. All of these methods are supported by statistics, which seem to show their effectiveness in certain epidemics. Nearly all of them have failed to give satisfaction in the hands of others, besides those who originally introduced them.

**Hot-Bath Treatment.**—According to this method the patient is put into a hot bath, considerably above the normal human temperature, and this is nearly always followed by a relief of symptoms. In the original cases the baths were repeated twice daily at the request of patients. In certain number of cases the relief has been very marked. This method of treatment has been successful in many parts of the world. It produces a decided lowering of temperature and often gives the patient quiet instead of the restlessness that existed before. Whenever new symptoms develop the baths should be repeated. When this method of treatment is combined with lumbar puncture the attending physician is always impressed with the idea that he is accomplishing something for the relief of the patient. While the hot bath has been used very commonly in Europe, it has not been employed very much in this country.

**Lumbar Puncture and Injection.**—This method of treatment has in very recent years secured quite a number of followers. Some mild antiseptic is used as the injecting material. Lysol has been employed with good effect. According to the usual experience the patient becomes more quiet after the injection and sleep results. In a certain number of cases very strong injections have been used at first by mistake, and afterward repeated deliberately because of success in the first case, yet without producing a lessened mortality. In general it may be said that it is too difficult a matter as to decide as to the value of remedies because of the difference of mortality in various epidemics.

**Bichloride Injections.**—These are given in the muscles along the spine and are repeated daily, until the disappearance of the fever. Sometimes only a few injections are needed, and in most cases, according to the original report, the course of the disease is favorably modified. As a matter of fact, however, in spite of all forms of treatment in certain epidemics the mortality is very high.



**Combination of Therapeutic Suggestions.**—Dr. Stockton himself considers that the first and most important element of treatment is that the patient shall be kept in a quiet, dark room, so as to avoid all reflex excitation of the central nervous system. Hot baths should be given, and if there are symptoms of intracranial pressure, then the puncture of the cord should be undertaken with the removal of all the fluid under pressure. This should be repeated if necessary whenever the symptoms indicated. In all cases where there is fever antipyrin should be given partly with the idea of reducing the temperature, but also with the idea of making the patient less restless and therefore less capable of resisting the further invasion of the disease. Mercury should be employed freely as a laxative or for purposes of elimination. Beyond this there seems nothing except that in severe cases the injection method may be employed as a sort of forlorn hope.

**Eye Symptoms of Cerebrospinal Meningitis.**—Dr. A. E. Davis, of New York City, said that the eye symptoms of this disease are extremely prominent. They naturally fall into two groups, local and visual. By its local effect upon the eye, the disease may produce affections of practically every portion of the eye-ball and of the nerves. The visual symptoms are mainly due to affections of the nerve itself, but also to pressure upon centres in the brain. The eye symptoms of the disease are very various, differing in different epidemics, and including nearly every form of ocular manifestation. Nystagmus occurs quite frequently. Lagophthalmos is seen quite commonly. In this case corneal ulcers may develop as the result of the exposure of the conjunctiva, and in these cases precautions must be taken to protect the external tunics of the eye by means of vaselin and a protective bandage. All of the nerves to the eye may be affected. Ptosis, unilateral or bilateral, may occur. Optic atrophy may be seen not infrequently, but the most interesting thing about it is that in spite of a hopeless appearance of atrophy in the nerve head vision may be restored. In one case, seen by Dr. Knapp, he said to the patient, "According to all rules of ophthalmology, you should be blind." In spite of this, however, the patient had reasonably good vision in one eye. This is very surprising, as the characteristic white atrophy would seem to preclude any such favorable result. In the same case, the patient had also been deaf for some time, and yet his hearing was restored.

**Eye Symptoms Suspicious.**—Certain forms of eye manifestations may lead the general practitioner to suspect the presence of epidemic cerebrospinal meningitis in a given case, whenever he knows that the disease has come into epidemic form in the neighborhood. An inequality of pupils, for instance, especially if it occurs with a squint, must set the doctor on his guard. In certain epidemics some eye symptoms constantly recur. A form of conjunctivitis, not unlike that seen in pink-eye, may be the initial symptom in a whole group of cases; on the other hand, pus in the anterior chamber has been the characteristic in a group of cases seen in another epidemic. With regard to lesions of the nerve due to cerebrospinal meningitis it is wonderful how long the usual vision may seem to be retained, notwithstanding the destructive process at work in the nerve.

**Brain and Meninges.**—Dr. Morris Manges, of New York City, said that to remind the practitioner of how serious the condition is, Dr. Councilman's expression that it is not alone a meningitis but also an encephalitis is significant. Hence the hopelessness of any treatment of the disease in a great many cases. Any one who has seen the tenacious false membrane which occurs over the cord and brain in a number of the

cases, and which develops with wonderful rapidity, will not expect to save a large proportion of his patients. Then it must not be forgotten that long after the supposed danger of the disease has passed there may be sudden death from acute dilatation of the ventricles, so-called acute hydrocephalus. This may occur as long after convalescence has been established as the sixth week. Eichhorst has reported three such cases. Lumbar puncture may be of avail in these cases if the foramen of Magendie is open; otherwise of course it would be of no avail.

**Experience in Lumbar Tapping.**—Dr. Manges said that any one who has used lumbar puncture in a number of cases will not want to abandon it. In some cases, because of the needed reduction of pressure there is an immediate and striking reduction of symptoms. In all cases, because of its diagnostic value, it is not a method for the specialist only but also for the general practitioner. He must acquire the technical details, and then he will not find it difficult. On the other hand, he must expect certain cases of dry tapping, that is, apparent failure of the procedure, though he can find no defect in his technic. These dry tapings are due oftenest to the fact that the thickened meninges allow themselves to be pushed before the examining needle, refusing to allow it to penetrate the subarachnoid space. In some cases the form of inflammation is such that there is no fluid to find its way out of the canal.

**Tolerance of Spinal Canal for Drugs.**—The experience of recent years shows how marvellously tolerant the spinal canal, formerly considered likely to be extremely sensitive, is to many forms of irritant drugs. Lysol has been employed in strength up to 10 per cent. solution without doing harm. Such drugs as guaiacol and even the milder silver salts have been employed without serious symptoms of any kind. The French have employed orthoform, and in a case treated at Bellevue argyrol was found distributed, not only over the spinal canal, but also over the cortex of the brain. These facts give promise that some new development of therapeutics may yet be possible in this direction. The use of the hot bath is easy in mild cases, but in instances of rigidity attempts to put them into a bath is to arouse a sense of pain and create a discomfort more than the bath will relieve. If this undue irritability is not present then the hot bath should always be used.

**Early Differential Diagnosis.**—Cerebrospinal meningitis may in its early stages simulate the coma of nephritis or that of diabetes. As a rule, in the epidemic cases of meningitis there is apt to be albumin in the urine early in the affection. This symptom taken with the comatose condition that so often develops early, may seem to indicate for sure the presence of nephritis. On the other hand, intracranial pressure may bring pressure to bear on the floor of the fourth ventricle with the consequent appearance of sugar in the urine, when, of course, the case will look like diabetic coma. Undoubtedly some of the sporadic cases of the disease masquerade under one of these two forms, and opportunities for infection and for the continuance of the disease are afforded.

**Resistive Vitality in Confined Quarters.**—Dr. De Lancey Rochester, of Buffalo, said that the *Diplococcus meningitidis* of Weichselbaum seems to be with us all the time. Opportunities are sometimes afforded it of securing a foothold in the human tissues beyond its existence as a saprophyte because of the lowered resistive vitality of individuals living in poor squalid confined quarters. The microorganism, having passed through a certain number of human beings, acquires intensified virulence and

so there comes an epidemic of the disease that invades even the houses of the well-to-do where reasonably good sanitary conditions have prevailed. It seems clear now that like the pneumococcus the diplococcus of Weichselbaum may be present on the mucous membranes of healthy persons, until some lowering of their resistive vitality gives a favorable opportunity for the entrance of the micro-organism.

**Diagnosis and Treatment.**—No one symptom is pathognomonic. It is the group of symptoms that points to the diagnosis. The Kernig symptom is of value, but may occur in typhoid fever or other febrile conditions producing irritation of the central nervous system. The injection of materials into the spinal cord can, in Dr. Rochester's opinion, only produce irritation but no curative effect. The warm bath with bromides in liberal doses, as well as such materials as antipyrin, has seemed to him most efficient for the relief of symptoms. He feels that local treatment should be employed more and uses leeches to the base of the skull and along the spine as a routine measure.

**Spread of Cerebrospinal Meningitis.**—Dr. E. Libman, of New York City, said that one of the most interesting problems with regard to the disease is its mode of distribution. It has been found in the mucous membranes, but the reports in most cases are not trustworthy, since it is comparatively easy to confuse it with the *Micrococcus catarrhalis* of Pfeiffer. There is some evidence, however, that it may be on external mucous membrane before its invasion of the serous membranes of the nervous system. In one case studied at Mount Sinai Hospital in New York City the first symptom of the epidemic of cerebrospinal meningitis was an acute conjunctivitis from which the characteristic organism of Weichselbaum was obtained in pure culture. Later the same micro-organism was found in the spinal fluid. In this case the disease would seem to have spread inward along the ocular tissues to the nerve and thence to the membranes of the brain. At times it must not be forgotten that this form of micro-organism may cause joint complications and even general sepsis, and it must be looked for wherever other more usual types of pus cocci are not found.

**Kernig's Symptom.**—In Dr. Edward Fisher's (of New York) experience the Kernig sign is not constantly present as has been claimed. In many cases indeed there are few symptoms before the severe even comatose condition develops. Sometimes there is only a tired feeling, and after a few hours the disease in fulminant form declares itself. With regard to the nervous sequelæ of the disease the same theory holds as for the optic nerves. Curious and often almost inexplicable recoveries may take place against all expectation.

Dr. Thomson, of New York, in closing the discussion said that with regard to the eyes it is extremely important to guard patient's from the reflex irritation of light. They must be kept in a darkened room. Optic neuritis may progress to a considerable extent without reducing the visual power. As far as possible then the patients must be spared all strain of the eyes lest some latent pathological process should be thereby exaggerated.

SECOND DAY.—FEBRUARY 1ST.

**The General Practitioner and the School.**—Dr. Robert P. Bush, of Horseheads, gave some of the

reasons why the general practitioner of medicine, in spite of the growth of specialism, must still continue to be a main feature of medical work. He gave the details of medical influence that the family physician may have not only in the home but also in the community, and especially in the school. With regard to children so much of protective medicine must affect their school life that every physician must take an interest in this. Scoliosis and various eye diseases find their beginning in the school, and only the physician can prevent them. There are many other phases of this sanitary education which must be the physician's duty. The physiology of alcohol is taught in the schools, but the physician must insist that constipation may cause as much suffering as dissipation, and that ill health may predispose to those cravings which seek satisfaction in stimulants.

Dr. Abraham Jacobi, of New York City, said that the general practitioner of medicine occupies a place in the profession that the specialist cannot fill, and the recurrent calling attention to this fact cannot fail to do good. The family physician must continue to stand between his patients and the fads of the specialists as well as the guardian of public health.

**Subcutaneous Correction of Nasal Deformities.**—Dr. John O. Roe, of Rochester, showed a series of photographs illustrating how much may be accomplished by careful patient operative work even in very bad cases of nasal deformity. These were usually the result of injuries, but some of them were also for syphilitic processes in which the ulcerative conditions were yet present. Notwithstanding this excellent results were obtained. Even where exostoses came as the result of chronic irritation, these were subcutaneously removed or portions of them used to fill up defects, the results of the injury. In one case, after the kick of a horse, the columna of the nose was torn from its place but was left hanging to the injured soft tissues. Instead of being replaced it was cut away. A new columna was formed by tissues taken from the upper lip. All the tissues beneath the skin were taken and by means of a buttonhole brought through to the nose. After a couple of months the mucous membrane by exposure to the air took on the character of skin and replaced the columna nasi very well.

**Middle Turbinate and Accessory Sinuses.**—Dr. W. J. Stucky, of Lexington, Ky., said that in recent years the significance of the middle turbinate in diseases of the nose itself and the accessory sinuses has become much clearer than heretofore. Undoubtedly affections of the middle turbinate are oftener missed than those of the lower turbinate. Much original work has been done in this line in recent years, and it is realized that the so-called gripe complications of the accessory sinuses often have their origin in some pathological condition of the middle turbinate. Dr. Stucky condemns escharotics and the galvano-cautery. The scissors and snare should be used for its removal, careful asepsis being important.

**Inferior Turbinate Surgery.**—Dr. Wendell Phillips, of New York City, said that the inferior turbinate in pathological conditions brings about interference with respiration and drainage. It may cause infection of accessory sinuses and thus be the source of very serious conditions. As true erectile tissue it is especially subject to reflexes of various kinds, and if it becomes boggy or, in the expressive phrase, waterlogged, it is a fruitful case of hay-



fever. Malformations and deformities from injury are quite common. Hence the necessity for frequent surgical intervention. Operations, however, must only be undertaken where positively indicated and when there are serious disturbances of function, never otherwise.

**Technic of Operations.**—Dr. Phillips said that the use of escharotics, especially of chromic acid, is no longer considered to be quite justifiable unless for small lesions. It produces serious reaction and gives rise to unfortunate sequelæ. The galvano-cautery is open to the same objection almost to a greater degree. It should practically never be used, unless in the submucous reduction of size of the turbinate by means of needles introduced beneath the skin surface before the current is turned on. Even this method is now very little employed. Electricity in the nose is now relegated to the past. The operative methods that are advisable are the wire snare for the posterior portion of the middle turbinate, while the scissors is best for the anterior and middle portions. A heavy scissors will accomplish this purpose very well.

**Postoperative Technic.**—Dr. Phillips said that he never plugs the nose after operation. The plug gives pain; sometimes causes sloughing; rather tends to increase the risk of infection and is unnecessary as regards the danger of hemorrhage. He uses a thin piece of absorbent cotton, which has been soaked in a 12 per cent. solution of acetotartarate of aluminum with the addition of suprarenalin if there is danger of hemorrhage. This prevents infection, and the results since its use was begun have been so favorable that Dr. Phillips would not now wish to operate and leave the open wound that some consider justifiable.

**Treatment of Chronic Otitis Media.**—Dr. William Sohler Bryant, of New York City, said that the cure of cases of chronic discharge from the middle ear is not impossible to cure by palliative treatment. The principal feature of this treatment must be cleanliness. All irritating materials must be carefully removed in such a way as not to leave further irritative momenta. All culture media must be removed so as to prevent the continuance of growth of infective agencies. For carious bone Dr. Bryant has found the use of 10 to 20 per cent. of nitrate of silver as the most useful remedy. It removes carious material without producing irritative reaction. Gentle and mild agents must be employed, or harm rather than good will result. Irritation may cause the discharge to become inveterate. Dr. Bryant then gave some illustrative cases showing that true chronic otitis media with discharge may be permanently cured. Patience is needed and the greatest care not to hurry the treatment, for this will surely lead to added risks and inveteracy of the condition.

**Non-Syphilitic Deformities Curable.**—Dr. Phillips, in discussing the papers on the throat and nose, said that he had seen the worst one of Dr. Roe's cases before operation and it seemed absolutely hopeless, yet much had been accomplished. Dr. Roe's secret is the taking of tissue from places where it is redundant and thus adding to deformity to transfer it to the tissue defects. The best results are obtained in non-syphilitic cases. With regard to the palliative treatment of middle-ear disease, Dr. Phillips is sure that in conservative, careful hands it may do good, but there is danger in allowing the discharge to continue, since the infective agents may invade other and more delicate tissues with fatal results. Life insurance companies refuse to take risks on individuals with discharging ears, and with reason. The risk of serious complications is always present.

**Galvano-Cautery of the Past.**—Dr. Snow, of Buffalo, said that all the cauterizing agents have no place in nasal surgery. They have done harm rather than good. There is danger, in his opinion, that Dr. Bryant's cleansing methods may in other hands than his own be a source of danger. A discharging ear needs most careful watching and radical operation whenever symptoms are threatening.

**Over-Operation in Nose.**—In the recent past there has been, in the opinion of Dr. Stucky, of Lexington, Ky., too much operation on the nose and there is now a fortunate swing of the pendulum the other way, though of course it may swing too far. Rhinologists reamed the nose until it was smooth as a gun barrel. Personally he believes that the septum should be always respected and that the inferior turbinate should be let alone much oftener than it is. The question is not how much may you remove, but how little can you take away and yet benefit your patient. The lower turbinate is a real bone, and if too much is removed the bothersome crusty condition develops that is a source of much inconvenience. Dr. Stucky thinks that the enlargement of the lower turbinate is often a sign of systemic disturbance and should be treated by general remedies more than local measures.

Dr. Wm. Sohler Bryant, in closing the discussion, said that the middle turbinate is oftener at fault than is thought, and he would add to Dr. Stucky's incrimination of it the fact that it is not infrequently the cause of obstinate trifacial neuralgia for which no treatment will avail except local measures for this structure.

(To be Continued.)

#### THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE.

*Ninth Regular Meeting, held December 21, 1904.*

The President, S. J. Meltzer, M.D., in the Chair.

**Members Present.**—Atkinson, Auer, Burton-Opitz, Dunham, Ewing, Flexner, Gies, Herter, Jackson, Lee, Levene, Levin, Lusk, Mandel, Meltzer, Murlin, Park, Richards, Salant, Wadsworth, Wallace, Wolf.

**Members Elected.**—John Auer, F. G. Benedict, Ludwig Hektoen, G. C. Huber, H. S. Jennings, Jacques Loeb, Leo Loeb, A. B. MacCallum, J. H. Pratt, Torald Sollman, J. C. Torrey.

#### ABSTRACTS OF REPORTS OF ORIGINAL INVESTIGATIONS.<sup>1</sup>

**Radium and Some Methods for its Therapeutic Application, with Demonstrations.**—By Hugo Lieber (by invitation). He gave an account of the discovery of radium by Mme. and Prof. Curie, and demonstrated many radio-active phenomena. Special attention was drawn to recently discovered facts bearing on radium emanation. For a time it was thought that radium discharged directly, (a) The so-called "emanations," which had practically no penetrating power and which, like a gas, were readily carried from one point to another by an air current; and (b) the so-called "rays"—alpha rays of very low penetrating power, beta rays of considerably greater penetrating power, and gamma rays of enormous penetrating power. Later investigations have shown, however, that radium discharges primarily emanations and alpha rays only. However, the emanations soon disintegrate and the disintegration products yield the beta rays and the gamma rays. Consequently, these powerful beta and gamma rays are the products of a decomposition product of radium.

<sup>1</sup> Proceedings reported by the Secretary, William J. Gies, Ph.D., of New York. The authors of the reports have furnished the abstracts. The Secretary has made a few abbreviations.

The proportions of the radiations given off by a certain quantity of radium and its disintegrated emanations are about 95 per cent. alpha rays and about five per cent. combined beta and gamma rays. Because of their nearly negative penetrative power, the alpha rays as well as the emanations are practically unavailable for therapeutic purposes when the radium is used in glass tubes or similar containers. Even the superficial layers of a given radium preparation are relatively impervious to both the emanations and the alpha rays proceeding from the underlying portions of the preparation. Therefore, it is essential, in order to obtain the full radio-active effects of a given quantity of radium, to have the radium in such a form (1) that the surrounding walls of the container will intercept neither the alpha rays nor the emanations, and (2) that the given quantity of radium should be spread out so thinly that, practically speaking, an upper layer does not exist.

Aschkinass, Dantzig, Caspari, Scholtz, Pfeiffer, Friedberger and others have shown that radium radiations exert very beneficial effects upon certain diseased tissues, as in sarcoma, lupus, carcinoma, etc. Marckwald states: "The radium rays have, besides a dilating effect, an elective effect upon the cells of quickly growing tissues as well as also bactericidal properties, three powers which are known to be very effective therapeutic factors." Germicidal effects of the radium rays have been shown repeatedly. Thus, Scholtz lately demonstrated that even typhoid bacilli can be destroyed with radium radiations. It is not surprising, from what was stated above regarding the low penetrative power, etc., of the emanations and the alpha rays, that disappointments have frequently resulted from the therapeutic application of radium. The author believes that in all probability many such disappointments have ensued solely because the practitioner has not had available in such cases just those radiations of radium which are required for therapeutic effects. Then, too, the radio-active powers of each radium preparation should be definitely ascertained in the first place, not taken for granted.

This opinion of past therapeutic failures led the author to conduct some experiments designed to discover a method of applying radium more advantageously. Such a method seemed to require a disposition of the radium in very thin layers, so as to yield the maximum proportions of alpha rays and emanations, and its application in a container permeable by the rays and emanations. These experiments finally led to the production of what the author terms "*radium coatings*."

Radium coatings are made in the following manner: Radium is dissolved in a proper solvent and into this proper solvent a proper material is dipped. This material is then withdrawn, with radium solutions adhering to it. The solvent quickly evaporates, leaving the material covered with an exceedingly thin film of radium. The kind of solvent to be used is determined by the nature of the material to be coated. Such solvents are employed as have a tendency to soften and permeate the material which is to be coated. Thus, if *celluloid* rods, disks, or similar instruments are to receive a radium coating in order to be used for the treatment of certain diseases, solvents such as alcohol, amyloacetate, etc., may be employed. These solvents have a tendency to soften celluloid. When the solvent evaporates, the radium has been uniformly distributed over the celluloid and has also been incorporated on its surface. In order

to prevent accidental removal of the radium in such coatings, the celluloid instruments produced in this way are dipped into a proper collodion solution and are promptly removed from the same. In this process the whole radium coating is covered with a very thin film of collodion. In the course of a few days this film of collodion becomes so tough that it will strongly resist destruction even when considerable force is used, thus affording ample protection for the underlying radium. This thin film, however, permits the alpha rays as well as the emanations to penetrate freely.

In the preparation of these coatings both the radium and the collodion solutions are colored with an aniline dye. This is done to show the part that has been coated. Besides, if the radium happens to be removed by accident or otherwise, as by scraping, etc., the disappearance of the color makes such removal evident.

The great difference between radium used in containers composed of even exceedingly thin aluminum, and radium used in the form of the coatings here described, was demonstrated. Thus, in their relative influences on the electroscope it was seen that a delicate rod coated at its tip with radium bromid of 10,000 activity, and holding therefore very little radium, compared very favorably in its effects with a gram of radium bromid of 10,000 activity in a *glass tube* or with 10 milligrams of radium bromid of 1,000,000 activity in a very thin *aluminum tube*.

As is well-known, when we observe the effect of uncovered radium upon a zinc sulphide screen, such as is shown in the spinthariscopes of Crookes, we see a large number of brilliant scintillations. It has been proved conclusively that these scintillations are produced solely by the concussion of the alpha rays upon the zinc sulphide. If what has just been said is correct, that is, that the alpha rays can penetrate the collodion coating of the author's celluloid rods, disks, etc., then the latter should yield evidence of these scintillations when placed upon a zinc sulphide screen. Such scintillations were abundantly demonstrated with various forms of the coatings.

As has already been stated, radium emanations will always follow the air current. Consequently, if some uncovered radium is placed in an air current, the current will carry with itself the emanations, which emanations will ionize the air and discharge the electroscope. The author demonstrated these phenomena with some strips of celluloid coated with radium and covered with collodion. The same phenomena were demonstrated with a tube which had been similarly coated with radium and collodion on the inside. When air was blown through this tube, toward the electroscope, the latter was discharged instantly.

The radium coatings make it possible to apply radium directly to practically any part of the body. The radium thus applied would be practically equivalent in radio-active effects to the same amount of uncovered radium in the same thin layer. Any instrument could be conveniently coated with radium at a proper place, by the method indicated, and the radiations could be brought into action wherever desired.

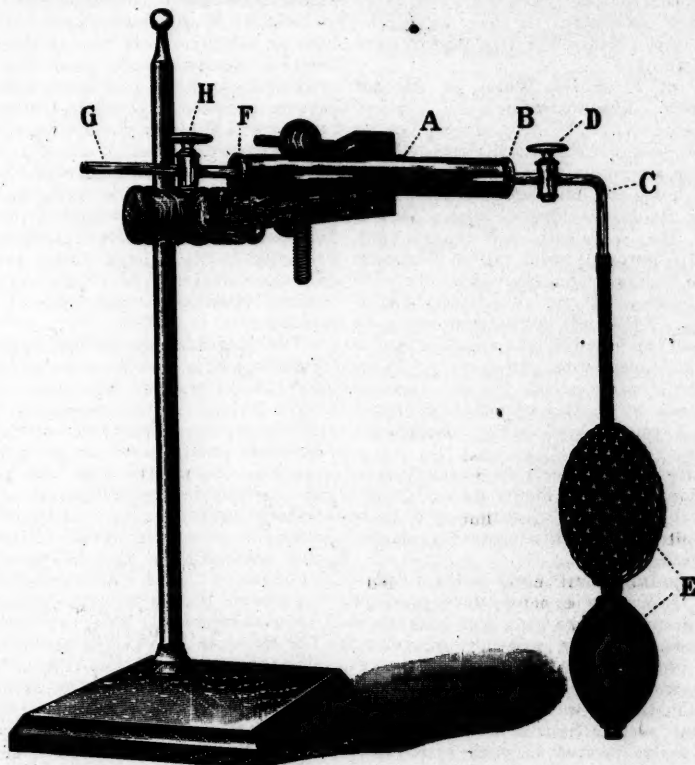
It has been stated that radium radiations destroy tubercle bacilli. Rutherford and Soddy, and others, have accordingly advised that radium emanations be blown into the lungs in phthisis. The author believes that the difficulties in the way of such



a therapeutic application of radium are solved by the apparatus depicted here. It consists of a celluloid tube *A*, with a complete coat of radium on the inside, and a collodion covering on the radium coating. By means of a tightly fitting rubber stopper *B*, a small glass tube *C* is inserted, which at its end has a large perforated bulb in order to produce a uniform air current throughout all parts of the tube. This glass tube *C*, has a glass stop-cock *D*, and connected with the latter is a rubber bulb *E*. By means of another rubber stopper *F*, a glass tube *G*, with a glass stop-cock *H*, is inserted into the other end of the tube. With the loose end of the last glass tube *G*, may be connected by means of a narrow rubber tube, etc., any desirable apparatus. If we now close the two glass stop-cocks and allow them to remain

tact, especially moist surfaces. If, therefore, we permit these emanations to slowly pass into or upon a diseased tissue, they will doubtless adhere to a considerable extent to the tissues treated in this way, especially if the applications are made under proper plasters, coverings, coatings, etc., to prevent the ready escape of the gaseous emanations. During their retention in this way the emanations disintegrate, as was stated above.

A very great advantage of these radium coatings is that all instruments, etc., coated by the method described, can be readily sterilized without loss of radium, for the protective coat effectually resists even continued boiling. The author demonstrated the radio-activity of a strip of celluloid which had been coated with radium and thereafter had been



closed for several hours, a considerable quantity of emanations will collect within the glass tube. If we now blow up the rubber bulb *E*, and slowly open the exit stop-cock *H*, and then slowly open the entrance stop-cock *D*, the compressed air will enter the coated celluloid tube *A*, the emanations which have collected within the celluloid tube will follow the course of the air current, and on inhaling this air, the patient will receive the full charge of radium emanations in his lungs. A cancer of the throat or of any other part of the body may be treated by the application of a proper radium rod directly, and besides that, by blowing the emanations, if necessary, directly into the seat of a cancer through a finely-pointed hollow exit rod. It is a well-established fact that these emanations are readily deposited upon surfaces with which they come in con-

covered with collodion. The strip was then placed in water in a test tube and the contents vigorously boiled. Both the radium and the collodion solutions used for the preparation of the coatings had been colored with a soluble, blue aniline dye. That the collodion protected the radium in this experiment was shown by the fact that the water, after boiling, was entirely free from color. The strip also retained its original radio-activity.

The availability of the radium coatings for many kinds of biological investigation is so obvious that nothing need be said here on that point.

**On Muscular Fatigue, with Demonstration of Tracings.**—By Frederic S. Lee. The investigation of the subject has been continued by the employment of a method by which the isotonic curves of all the contractions of the muscle stimulated at regular

intervals, are superimposed upon a recording surface. The differences which were previously pointed out in the mode of fatigue of the muscles of the frog, the turtle and a mammal, have been confirmed. Lohmann's work, in which a frog's muscle on being heated to a mammalian temperature, shows a course of fatigue similar to that of mammalian muscle, has been repeated and found in general correct. But turtle's muscle, similarly heated, continues to give its characteristic curve of fatigue.

Kaiser's method for determining the point on the isotonic curve where the contractile stress terminates, has been employed for the frog's gastrocnemius, and it has been found that as the height of the curve diminishes in the course of fatigue, the contractile stress terminates at progressively lower and lower points. The lowering of the latter does not, however, seem to keep pace with the lowering of the summit of the curve. Hence the two points seem to approach one another.

**A New Form of Float for Water or Alcohol Manometers, with Demonstration.**—By Haven Emerson (by invitation). The float consists of an aluminum cylinder with very thin wall, supporting a writing arm of fine aluminum wire. For manometer tubing of  $\frac{1}{8}$  inch inside diameter,  $\frac{1}{8}$  or  $\frac{1}{4}$  inch aluminum tubing  $2\frac{1}{2}$  inches long is used. This is bored out until the walls are sufficiently light. In the upper end is forced a solid cap of aluminum with a small hole in the center into which the wire for the writing lever is driven. The lower end is plugged with cork. Both ends are painted over with hot paraffin to prevent possible leaking. For use in alcohol a somewhat longer tube is necessary. Three crossed hairs held in place across the open arm of the manometer tube by a strip of adhesive plaster keep the writing arm centered with sufficient accuracy.

The value of the float consists in its cheapness, the ease with which it can be made; its very slight inertia, and its convenience in estimating delicate changes in pressure for which a water or alcohol manometer is needed.

**Gelatin as a Substitute for Proteid in the Food.**—By J. R. Murlin. In a series of experiments on dogs, the nitrogen requirement of the body was determined by fasting periods. Varying amounts of gelatin containing from one-fourth to two-thirds of the required nitrogen were fed, the remainder of the nitrogen being supplied in meat proteid. The calorific requirement was estimated from Rubner's tables and was fully covered in each experiment with fats and carbohydrates. Results show an equal sparing of the body proteid with one-fourth, one-third and one-half gelatin nitrogen, the coincident sparing of fats and carbohydrates being the same. When the coincident sparing of proteid by non-nitrogenous food is increased by feeding a larger percentage of carbohydrate and less fat, two-thirds of the nitrogen requirement may be given in gelatin and perfect nitrogenous equilibrium maintained at the starvation level.

The same result was obtained on man. The bare requirement in nitrogen was obtained by analysis of the urine and feces during a fasting period of three days, and equilibrium was established at this level on a mixed diet containing two-thirds of the nitrogen requirement in meat. Then for two days the meat nitrogen was replaced by gelatin nitrogen and the potential energy supplied was increased from 40 to 48 Cal. per kg. of body weight by giving

more cane sugar, which served at the same time to make the gelatin more palatable. The nitrogen equilibrium was not disturbed during these two days nor on subsequent days when the diet was exactly the same as before the gelatin period.

**The Reductions in the Body in Fever, with demonstrations.**—By C. A. Herter. He called attention to the influence of temperature on the activity of reduction in the living organism as indicated by intra-vital infusion of methylene blue. Elevation of the body temperature greatly accelerates the rate of reduction in the tissues. This was demonstrated by means of an intra-vital infusion of methylene blue in a rabbit whose body temperature had been elevated to  $42^{\circ}$  C. through the external application of heat. Simultaneously with this infusion another infusion was made in a rabbit of approximately equal weight in which the temperature was maintained at about  $39^{\circ}$  C. In other respects the conditions of the infusion were as nearly alike as possible in the two animals. A definite contrast was noted at the close of the infusion between the organs of the two animals as respects their color, the normal rabbit showing more color than the one in which the temperature had been elevated. The differences in the nervous system and the muscles were particularly striking. Even during life an inspection of the muscles indicated that the reduction was carried on with greater rapidity in the heated rabbit than in the normal. Previous observations on the reducing action of the animal body under the influence of cold were referred to.

**The Measurement of the Reducing Processes of Cells in Vitro, with demonstrations.**—By C. A. Herter. An apparatus was demonstrated which had been devised for the purpose of measuring the reducing process of the different kinds of cells *in vitro*. Definite quantities of organ pulp were placed in specially constructed tubes and anaerobic conditions were established by the passage of nitrous oxide gas. Definite quantities of methylene blue of known strength were then added. The rate of reduction was indicated by the disappearance of the blue color owing to the reduction of the animal cells. It was shown that *in vitro* the influence of temperature is the same as that observed in the living organism. The influence of alkali in accelerating reduction was also shown. The action of salts and various poisons is at present the subject of investigation.

**Some Medical Applications of the Naphthoquinone Sodium Monosulphonate Reactions, with demonstrations.**—By C. A. Herter. Dr. Herter demonstrated a substance of singularly great powers of condensation with other organic substances, this condensation resulting in the formation of colored bodies. He demonstrated especially the reactions of naphthoquinone sodium monosulphonate with anilin and various amines, with nicotine, conine, piperidine, and finally with indol, skatol, and pyrrol. The reactions with indol, skatol, and pyrrol possess unusual physiological and chemical interest and will form the subjects of future publications. The reaction with pyrrol occurs in the cold and is evidenced by the deepening red which on the addition of alkali changes to purple, violet, blue, and finally reddish brown. The addition of acid to the red solution obtained without alkali is followed by the development of a green and finally a brown color. These color reactions (and particularly the one dependent on acids) occur with such rapidity if one uses concentrated heated solutions of pyrrol, that the character-



istic color stages may be of extremely short duration. This reaction with pyrrhol is a highly characteristic one, and should prove of service to chemists.

Among the biological and medical applications of the naphthoquinone sodium monosulfonate reactions Dr. Herter mentioned the study of various aromatic compounds in the organism, the occurrence of certain intravital syntheses, the detection in the urine of organic compounds, such as, para amido phenol, and the development of a method of staining the bile capillaries by means of intravenous infusion of the derivatives of the naphthoquinone compound. Dr. Herter also stated that these substances facilitate the study of the relation between the chemical constitution and distribution of poisons in the body.

**On the Rate of Absorption from Intramuscular Tissue, with demonstrations.**—By S. J. Meltzer and John Auer. In physiology no distinction is made between absorption from the subcutaneous tissue and absorption from muscles. In experimental infection and immunity, infections of virulent toxic and antitoxic material is being extensively employed, but intramuscular injection has not yet even been thought of. In therapeutics it is practised promiscuously, and for the reason, as pharmacologists and clinicians expressly state, that it gives less pain and causes less frequently the formation of small abscesses.

The authors came upon the observation that absorption from the muscles is incomparably more rapid and efficient than from the subcutaneous tissue and tested the matter with several substances. With suprarenal extract it was tested in three ways: (1) *By the effect upon blood pressure.* A subcutaneous dose of 0.6 c.c. or less per kilo (in rabbits) exerts no effect, and the variable effects of larger doses consist in a rise of pressure from about 10 to 20 millimeters of mercury, which sets in late and develops slowly. An intramuscular injection of 0.5 or 0.4 c.c. per kilo, or even less, invariably causes on the other hand a considerable rise of pressure, which sets in after a very short latent period and reaches its maximum in a few seconds. The curve obtained after intramuscular injection is very similar to that after an intravenous injection. The increase has been as high as 50 or 60 mm. of mercury and may go even higher. The course of the curve is frequently interrupted by "vagus-pulses." (2) The question was further tested *by the effect upon the pupil on the side from which the superior cervical ganglion had been previously removed.* An intramuscular dose of 0.5 or 0.4 c.c. of adrenalin per kilo caused dilatation of the pupil in less than a minute, while such a dose, given subcutaneously, rarely produced any effect. The effect of a larger dose sets in only after ten or fifteen minutes. (3) *By prostration effects.* A dose of 0.5 c.c. per kilo will prostrate a rabbit in a minute or two, after intramuscular injection. In cases of subcutaneous introduction, prostration does not occur until after twenty or thirty minutes, and even then is induced only by much larger doses.

Further tests were made with *curare*. A dose can be found which will have no apparent effect after subcutaneous injection, but which, after intramuscular introduction, will cause the paralysis of the voluntary muscles in a few minutes.

The authors have also established striking differences between the effects of the two modes of application for *morphin* and *fluorescin*.

#### PAN-AMERICAN MEDICAL CONGRESS.

The Fourth Meeting of this Congress was opened January 3, 1905, by President Amador, of the Republic of Panama. The formal opening, however, took place in the evening at the National Theater.

President Amador was introduced by Dr. Julio Icaza. President Amador thanked the Congress for the distinguished honor that had been conferred upon him in being selected to preside over the deliberations of the meeting, which included among its members so many illustrious colleagues. He expressed the hope that great benefit would result from the papers that were to be read. With these few remarks he declared the Fourth Pan-American Medical Congress open for scientific work.

**Remarks by Mr. John F. Wallace.**—The Chief Engineer of the Isthmian Canal Commission, Mr. John F. Wallace, was introduced, and, among other things, said it was unnecessary to dwell on the five hundred years since the Canal's early and original conception. It was also unnecessary to dwell upon the progress which had been made so far under the grants and franchises to attempt its construction. He called attention to the fact that the first real proposition to construct the canal emanated from America, and while the results of the French companies were failures, this work simply laid the foundation of its future construction. It would seem fair, then, that the Americans should have another trial, and it was the hope of all that it would be the last. It was a difficult matter when one passed over the line of the canal to-day to realize the extent of the work done and the enormous amount of machinery purchased by the old and new French companies. It was only by a study of the situation on the Isthmus of what had been accomplished, that one could realize how much the work that had been begun before should contribute to the present success. The former operations on the canal had pointed out what to do and what not to do. The original idea of Mr. De Lesseps was a sea level canal. The reason why this project was abandoned was not one of engineering difficulty, but entirely for a different cause. His plans were changed simply because he did not have the means to put them into execution, not because he discovered anything impracticable in the undertaking from an engineering standpoint. In following in his footsteps, or, rather, in picking up the enterprise, the Americans had commenced at the opposite end of the problem, and all the plans that had been accomplished, the estimates that had been made as to time and progress, were based on the reports of the former Commission from the United States to investigate this question. In making a comparison of the Nicaragua route, with an elevation of 190 feet above the sea level, he desired to make a fair comparison with the Panama route. It was proposed to create a canal with an elevation of the same height, and it was also proposed to create an artificial lake, and create the same conditions, as nearly as possible, as existed at Nicaragua. The construction of the Panama canal was one of the problems of the new world. There was hardly any branch of the civil engineering profession that would not have to be called upon to assist in the problem. The construction of the canal might be divided into three parts: (1) The sewerage proposition, which was the excavation by ditches of the sea level portions of the canal. (2) Excavation for a short distance where the material might be excavated and

wasted immediately adjacent to the canal. (3) A type of construction which was peculiar to Panama, and that was what might be called the Culebra problem. This problem not only involved the excavation of fifty million to one hundred million cubic yards of material, depending upon the character of the canal, but it consisted in the transportation and disposal of that material over a distance of ten to twelve of fifteen miles away. The Culebra problem was the controlling factor to be considered both as to time, cost and difficulty. The time in which the Culebra cut can be excavated was the determining factor as to the time required for the construction of the canal.

After referring to the labor problem and the difficulties connected with it, Mr. Wallace spoke of the problem of sanitation and the care and health of the employees who were to be brought there for constructing the canal. This matter was in the hands of Dr. Gorgas, and he would like to say that the success of this work and the ability to bring men there would largely be due to his efforts and the support he received.

**Sanitary Conditions as Encountered in Cuba and Panama, and What is Being Done to Render the Canal Zone Healthy.**—This was the title of an address delivered by Dr. W. C. Gorgas, Chief Sanitary Officer of the Isthmian Canal Commission. He explained the sanitary conditions in Cuba, and stated that for two centuries the United States had been scourged with yellow fever often imported from Havana. When the United States occupied Cuba, there was a perfectly cast iron commercial quarantine against the West Indies, in all Gulf ports during every summer. Still worse was it if yellow fever broke out in the United States. To get rid of yellow fever in Havana meant that it would cease to menace the Southern States, so that the sanitation of the Republic of Cuba meant really the sanitation of Havana. For two years, therefore, Havana was cleaned industriously, for the reason it was thought that filth was the cause of yellow fever. Conditions changed, however, when the decision was reached that the *Stegomyia fasciata* was the cause of yellow fever. This theory was advocated by Dr. Carlos J. Finlay, of Havana, twenty years ago. The first practical effort to suppress yellow fever was made as inoculation tests and not as efforts to destroy the mosquito; but some fatal cases which occurred after inoculation stopped all enthusiasm in that direction, and then it was decided to attempt to destroy the mosquito. This met with unexpected and remarkable success. In less than a year Havana was entirely free from yellow fever, and since September, 1901, not a single case had occurred in that city. The United States came to Panama to build the canal and the work of the Sanitary Department was to preserve health while doing so. In all previous efforts the history of the canal had been darkened by great loss of life. Malaria and yellow fever were the canal's worst enemies. But the yellow fever problem here was really not so difficult as it was in Havana, and the result seemed equally as promising. Continuing, Dr. Gorgas said: "We know more about yellow fever now than we did at Havana; we are pretty certain to be able to eliminate that disease; but malaria is seen under very different conditions from what it was in Havana. Malaria in a big city is chiefly a disease of the suburbs; malaria along with yellow fever was eliminated from Havana by the destruction of the breeding-places of the mosquito, but on the isthmus conditions are different. Here there are twenty odd villages with 12,000 people scattered over nearly 50 miles; 70 per cent. of these

have been found to have the malarial organism in the blood; probably a larger percentage would be found were the examinations to be extended over a greater period of time. Moreover, the parasite is not that of simple malarial fever, but the one which breeds the pernicious Chagres fever, of a much severer type, the estivo-autumnal parasite. The plan adopted along the canal is to eliminate the breeding places by superficial drainage. Much headway has already been made. For instance, at Ancon, the hospital is entirely free from the malarial mosquito. Dispensaries are being established, and all canal people are urged to use quinine. These are the two methods employed for destroying the malarial mosquito. Four-fifths of the money appropriated for sanitary matters now goes for the care of the sick, for the commission has determined to take care of those sick within the zone. There is now under way a hospital of 100 beds at Taboga; at Ancon, under Major La Garde, U.S.A., there will be hospital accommodations for about 500; at Miraflores there will be hospital accommodations for 100 chronic patients, including insane and lepers; at Colon, a hospital with 500 beds is expected. At Culebra, Gorgona, Bohia, small hospitals will be erected. At Ancon there is a good general laboratory in which are working Dr. Herrick and Dr. Kendall, both Johns Hopkins men.

Dr. Gorgas promised rapid advances, and he was sure that the expectations for complete control of conditions would soon be realized.

**Earlier Conditions of the Canal.**—Mr. Tracy Robinson delivered an address on this subject. He reverted to the opening of the Panama railroad on January 31, 1855. This, next to the discovery of the Pacific by Balboa, was the most important event that had occurred on Isthmian soil. In 1869 the overland connection from Omaha to San Francisco was completed, and the prosperity of the Pan-American route waned. He said the people of Panama expected great things from the influence of the medical profession on the new canal project. He believed that Panama under American government would some day be an object-lesson for the world. He joined his Panamanian brethren in extending the hand of welcome to the members of the Congress. There had never been a real epidemic of yellow fever on the Isthmus for fifty years, although many had died of the fever. There had been 1,200 deaths in five years out of a total number of 6,000 men employed in the construction of the railroad. All the workers on the canal in the sanitary corps were up-to-date medical men—true missionaries. To them the people looked for health and strength. The trained physician led, and he would be the captain in the battle of scientific civilization against bigotry, ignorance, prejudice and their hosts of allies.

The Secretary-General of the Congress, Dr. José E. Calvo, extended to the members the hospitality of the city, and said that "if we have not the charm of large cities, we still take great pride in your visit, and hope that you will be rewarded for having come so far."

Mexico, Guatemala, United States of America, Honduras, Santo Domingo, Cuba, Peru, and Porto Rico sent official delegates, as well as the medical faculty of Costa Rica, the Academy of Sciences of Havana and other scientific bodies.

#### SECOND SESSION.—JANUARY 4TH.

There was an informal excursion in the morning to a suburb called Savanes, where the guests were received and entertained at luncheon by Dr. Icaza.

In the afternoon the scientific session was presided over by Dr. H. R. Carter.



**New Method of Incising and Suturing the Liver to Re-establish its Continuity and for the Control of Hemorrhage.**—Dr. Jacob Frank, of Chicago, in a paper with this title, stated that all modern surgery, especially the abdominal surgeon, sought to secure primary union, thus minimizing infection and hernias. This principle should be applicable to surgery of the liver provided a proper technic was employed. If the surfaces were properly coapted, the continuity would be re-established, primary union secured, and hemorrhage prevented. Liver surgery had heretofore presented the following dangers: Hemorrhage; ignorance of the healing and regenerative power of the liver; infection; cholemia from the escape of bile into the peritoneal cavity. Injuries of the liver had always been considered grave, and those of the concave surface more dangerous than of the convex. Compression had been most usually tried to stop hemorrhages. It was now pretty well proven that hemorrhage might be controlled by the suture, catgut being preferred to silk. Dr. Frank had lately experimented on dogs, making deep incisions into or through the liver, some of which recovered without any treatment whatever. He then excised a wedge-shaped piece from the liver, securing exact apposition, and securing all bleeding vessels by ligature. The edges were then held in contact and sutured by catgut. The results were excellent. The abdominal incision was a matter of choice. The method was considered particularly applicable to tumors, for the reason that they usually appeared at the edge of the liver. The incision must be free.

Dr. Nicholas Senn, of Chicago, stated that the experiments of Dr. Frank were conducted on normal tissue and that the conditions were not such as one would find in pathological tissue. In cases calling for operation the possibility of hemorrhage was greater because vascular channels were enlarged. In operating, one should strive to imitate nature. The retraction of the cut end of blood vessels was a mechanical impossibility in the parenchyma of the liver. A thrombus was the only thing to be relied on to secure control of liver hemorrhage. Nature would provide such a thrombus when the liver was lacerated. The idea of excising a wedge of tissue he considered excellent.

Dr. George W. Crile, of Cleveland, Ohio, stated that in the liver the circulation was low, and that even pressure was essential to continue it. He believed that the bleeding could be checked by the author's method.

Dr. Frank, in closing the discussion, stated that he had recently received reports with reference to gall-bladder surgery where the surgeon had found that after the removal of the gall-bladder hemorrhage from the liver was best controlled by sutures. It was very essential to operate as rapidly as possible on human beings, and endeavor to control hemorrhage or prevent it from entering the peritoneal cavity.

**Surgical Physiology.**—Dr. George W. Crile, of Cleveland, Ohio, in a paper on this subject, stated that surgical practice rested very largely upon altered physiological actions. Good illustrations were the surgical physiology of the two most vital phenomena, respiration and circulation. In respiratory obstruction respirations were not immediately arrested, but were stimulated in force though not in frequency. In mechanical stimulation of the laryngeal mucosa there was usually an immediate respiratory arrest; therefore, there should not be a moment of doubt in differentiating between reflex inhibition and obstruction, thereby avoiding certain crises in the abstraction of foreign bodies or in performing intubation. In administering anesthetics the students should remember that if the tongue was pulled for-

ward too forcibly respiration would be arrested. A better way was to recall also the increased respiratory action caused by divulsion of the anus, and to call upon the accessory muscular apparatus to aid respiration. Surgical physiology of the circulation was more vital than that of the respiration. The control of the circulation often meant control of life itself. If by any reflex action the vasomotor system was disturbed, its function was impaired, and the blood pressure fell. If the surgeon remembered this he would guard against excessive manipulation, and he would try to support the circulation by such mechanical means as saline infusions, posture, or bandaging. It was known that a hard pulse and high blood pressure were characteristic of increased intracranial pressure. This might lead the surgeon into a false security. He should not push chloroform to full anesthesia, as by so doing the blood pressure is liable to fall and cause a sudden arrest of respiration and circulation. The heart might be inhibited from mechanical stimulation of the trunk of the superior laryngeal nerve in operations upon the larynx, and death might occur, although it should not. Furthermore, a blow upon the lower ribs or pit of the stomach did not cause collapse or death from disturbance of the solar plexus, but from inhibition of the heart. As to suspended animation, Dr. Crile stated that the different parts of the body had varying periods of suspended animation, and death fell unevenly to the different tissues and organs. He had been able to resuscitate a dog fifteen minutes after complete arrest of respiration and circulation. A decapitated dog was kept alive for twelve hours by a continuous slow infusion of one to fifteen thousand solution of adrenalin in salt solution. The lesson to be learned was that physiology must be studied carefully to benefit surgery.

**Some Gynecological Superstitions.**—Dr. Lucy Waite, of Chicago, said that these were hard to overthrow. One of the first superstitions was that the uterus had any normal position. It had not, but it might lie in any position. The second was that retrodeviation of the uterus was the cause of constipation. This was not so, as it could not be proved either by dissection or examination. She had 500 cases analyzed, but could not trace constipation to posture of the uterus alone. The uterus was found in anteroposition in 60 per cent., in retroposition in 40 per cent. Of the anteropositions, 52 per cent. gave a history of constipation, while 48 per cent. did not. Of the retropositions, 66 per cent. complained of chronic constipation, and 33 per cent. had normal bowel movements. The third was that backache was a symptom of retrodeviation. She regarded this as nonsense, as one thousand cases examined disproved that superstition. The fourth, that flexion or stenosis was the cause of dysmenorrhea. This was not so, nor was childbirth the only cure. Of 300 cases where the question was asked, "Have you had more or less pain since the birth of your children?" the answer of 135 was, "More pain," of 89 "Less pain," and of 76 "No difference." Some of these 76 had no pain before or since childbearing. Of the 135, some had no pain before childbearing. Many women had suffered worse after childbirth than before. She thought that the mania for operating ought to be checked on the death of these superstitions.

Dr. George W. Crile, of Cleveland, Ohio, asked the essayist whether all backaches were attributed to the uterus, and whether they were often accompanied by aches of the legs, to which Dr. Waite replied that not all backaches are traceable as referred pains to the uterus, but that there was usually some pelvic disturbance rather than any malposition of the uterus.

**Extraction of Cataract.**—Dr. S. D. Risley, of Philadelphia set forth the technic of extraction based upon certain complicating conditions, their relation to the opaque lens, and the extent to which the complications modified prognosis and rendered the removal of cataract difficult and dangerous. The cataractous eye was to be regarded as not free from disease. In studying cataracts, it would be found that early there were asthenopic symptoms, swollen and red caruncles, thickening of the retrotarsal folds and headache. As the cataract matured and reading was abandoned these diminished. There might also be encountered during the incipient stage anomalies of refraction and fundal changes, sometimes fluidity of the vitreous. There was an obvious relation between choroidal disease, eye strain and lens capacity; also between the lens and the gouty or rheumatic diathesis. The nutrition of the eyeball was largely dependent on the circulation of the uveal tract. Vitreous and lens were apt to suffer, as well as the posterior capsule; therefore, it was best not to operate in the immature stage, *i.e.*, until the disease changes had ceased. He never attempted operation with a dull gray or amber-colored lens that had ripened slowly or with one that was translucent. When the iris lacked luster and did not dilate easily, it was liable to traumatic iritis. It was best to treat such cases by iodide and bromide internally and by some mydriatic and to perform a preliminary iridectomy four to six weeks in advance, using cocaine if possible. If the lens was extracted in the capsule, Dr. Risley preferred a Kalt stitch through the cornea with a large corneal section; then a wire loop was introduced and the lens delivered by gentle traction. There was some but not unavoidable danger. In anterior capsulotomy, the danger was less and the corneal section might be smaller, but a secondary operation was usually necessary. For this he preferred two knives devised by himself introduced at the same time. He preferred a light firm bandage, with confinement in bed as short a time as possible.

### THIRD SESSION.—JANUARY 5TH.

**Coxa Vara and Differentiation Between It and Sthenic Inflammatory and Traumatic Affections of the Hip-Joint.**—Dr. Nicholas Senn, of Chicago, stated that coxa vara was a disease of the femoral neck in adolescence, and hitherto had been rarely described in this country. Müller was the first, in 1888, to give it an earnest clinical study, and to prove that it was a disease entirely different from any other hitherto described. Hofmeister and Kocher, six years later, contributed to the study. A genuine coxa vara was characterized by a non-inflammatory softening of the neck of the femur. It was a self-limited disease, confined to the femoral neck, and characterized by anatomical changes. Dr. Senn reported two typical cases in young men, and a third in a man forty-two years old. The last case presented all the classical signs and the X-ray showed that there was no fracture of the femur, as had been suspected before the case came under his observation. There had been the usual pains in the hip-joints referred at times to the knee, coming on in paroxysms which would last for two weeks, followed by painless intervals of several days. There was no tenderness or impairment of joint motion. The pain was not aggravated by standing or walking. After two occasions in which the patient slipped and increased the pain, he noticed that the leg was shorter. When seen by the essayist he walked with a decided limp and complained only of muscular weakness. Any infection could be excluded, and there was certainly not a complete fracture. A spontaneous recovery, as well as the degree of

bending downward of the neck of the femur in its entire length, and the complete absence of neoplastic inflammatory products excluded absolutely the possibility of arthritis or senile coxitis. Very little was known with reference to the true nature of coxa vara. The softening of the neck of the femur was the most important element. Trauma, tuberculosis, or inflammatory affections must be excluded. Life itself was never threatened, as the disease was self-limited, and sooner or later ended in spontaneous recovery. The general treatment was unimportant. Local treatment should be directed toward relieving pain and limiting the bending of the neck of the femur. Both of these were secured by absolute rest in bed combined with extension. Operative treatment should be delayed as long as possible.

**Sanitary Conditions in Cuba Since the Proclamation of the Republic.**—Dr. Carlos J. Finlay, of Havana, Cuba, contributed a paper on this subject, which was read by Dr. Martinez, of Havana, in the absence of the author. The subject was divided into (1) special sanitation against yellow fever; (2) special sanitation against other infectious disease; (3) general sanitation for the preservation of public health. The author stated that there were many who did not yet acknowledge that the *Stegomyia fasciata* was the only means through which yellow fever could be propagated. The author claimed that this was the only method, and that to keep yellow fever patients from being bitten was the only means of subduing the disease itself. He referred in the highest terms to the noble work done by the late Major Walter Reed, Col. W. C. Gorgas, and others. He said that Dr. Gorgas, who was the chief sanitary officer of Cuba until May 20, 1902, first drove the infection from the island, and since his régime and up to the present date, December, 1904, notwithstanding the importation of 22 cases of yellow fever from foreign ports, not a single case of the disease had occurred in Havana, nor until two months ago in any other part of Cuban territory. The acute quarantinable diseases about which the Island of Cuba was particularly concerned were yellow fever, smallpox, cholera and plague. None of these diseases, except those cases mentioned, had occurred, with the exception of one case of smallpox, which was due to an accidental contagion which did not spread. Against smallpox they trusted to isolation and vaccination. Against diphtheria, isolation and anti-diphtheritic serum prepared in Havana had given excellent results. Cases of infectious diseases were isolated at home or in some special hospital.

Dr. Purnell, Acting Assistant Surgeon in the Marine Hospital Service at New Orleans, stated that although he accepted the mosquito theory, he did not do so absolutely, inasmuch as there were cases unexplained by this theory, and that measures of prevention besides the attack on the mosquito should be adopted. The great epidemic in Memphis, in 1879, occurred after a severe cold winter, but not until July 9, and if the mosquitoes alone were the cause the disease ought to have appeared in April. He had known of an outbreak in Jackson, Miss., among men working in buildings which ten years previously had been infected with the disease. Fomites had undoubtedly something to do with the spread of yellow fever.

Dr. H. R. Carter, of Panama, expressed himself as being positive that yellow fever was conveyed by the bite of a mosquito from sick to sick, and in this way only. He had assisted in stamping out epidemics by methods not necessarily directed against the mosquitoes alone, such as isolation and fumigation, but he knew that their efficacy had destroyed the mosquito incidentally. Sulphur was a good insecticide, but nothing else.



Dr. Stern, of Jamaica and Panama, concurred in the remarks of Dr. Purnell in not accepting the mosquito as the only conveyer of yellow fever.

Dr. Chassaignac, of New Orleans, La., considered the mosquito theory beyond refutation. The Havana experiments had furnished positive proof of this, and he did not think there was any other means of transmitting or conveying the disease.

Dr. C. H. Hughes, of St. Louis, Mo., spoke of his experience with the disease during his early practice. He was not convinced that the mosquito was the only means of propagation and expressed himself as believing that flies might transmit the disease.

Dr. Carter referred to fomites, and said that there could be only two ways in which they could convey the infection. One was by direct contact, such as opening a trunk, and the other by environment. If either means was admitted, infection should take place anywhere.

Dr. W. C. Gorgas said he thought at one time fomites was the only cause of transmission of the disease. He then differed from Dr. Finlay, but Major Reed soon convinced him to the contrary. The harmlessness of baggage was observed in Havana, where people from the suburbs were constantly moving back and forth, but never brought infection with them.

Dr. Lewis Balch, in referring to fumigation, said that he relied upon two pounds of pyrethrum powder to 1,000 cubic feet, with two hours' exposure. This gave absolute results in killing the *Stegomyia fasciata*.

Dr. Thomas had used pyrethrum, but had found it without value, and said that sulphur was now used exclusively in Louisiana.

Dr. Echeverria, of Costa Rica, spoke in favor of the mosquito theory, and added that yellow fever had never been known to occur where the *Stegomyia* could not be found.

Dr. Martinez, in closing the discussion for Dr. Finlay, said that to explain isolated outbreaks, it was assumed that children preserved the organism in the blood, as they did malaria, and this offered a source of supply to the mosquito. The study of the development of the parasite in the mosquito showed that an intermediate host was necessary, just as it was in the tapeworm. The United States Army Commission had studied the question of fomites very thoroughly. In its report, one instance was cited where the blankets, clothing and bedding of patients ill or dead from yellow fever had been stored in a room, and used by two sets of non-immune fresh arrivals in Cuba, and yet no single instance of infection from this clothing had occurred.

**Resolution.**—Dr. Chas. Chassaignac, of New Orleans, offered the following resolution:

*Resolved*, That owing to the suffering and to the serious danger to health and life for which the mosquito is known to be chiefly if not solely responsible, it is the imperative duty of all communities and governments to use all the means in their power for the destruction and gradual annihilation of the pestiferous insect in question." The resolution was seconded and unanimously carried.

**Care and Cure of Epilepsy.**—Dr. Chas. H. Hughes, of St. Louis, Mo., claimed that epilepsy should not in many cases be listed with the curable diseases. He reported ten cases that had been under observation for twenty-five years, in which there had been no recurrence. In treating epilepsy, he always demanded an agreement that the patient should be under control at least two years, during which time he would treat every function of the individual so as to keep his general health in the best possible condition. Of course, institutional

treatment was better in most cases than private treatment.

**Report for the Delayed Passengers on the Athos.**—Dr. A. E. MacDonald, of New York, stated that when the members accompanying him realized that they could not reach Panama on time, the delegates and members held meetings on board the Athos. Papers were read and discussed, of which records were kept, and he made a motion that such papers and discussions be allowed to be spread on the minutes of the Congress as a part of the regular proceedings. The resolution was adopted.

**Permeability of Filters to the Protozoa of the Waters used in the City of Lima.**—Dr. Hugo Biffi, of Lima, read a paper with this title, saying that the idea of the experiment was to see what filters were serviceable, not only to provide good drinking water to those using them, but to secure sterile water for laboratory purposes. They found that some amebæ and flagellate bacilli passed through all the filters. Most filters suffered from prolonged use. He considered the Berkefeld and Grandjean filters were the best.

**Plague at Mazatlan, Mexico.**—Dr. José Ramos, of Mexico, outlined the methods by which the Mexican government was able to suppress the outbreak of plague at Mazatlan in 1900. Complete isolation of plague patients was insisted on. Disinfection was thoroughly carried out; destruction of rats was attempted on a very large scale, and even houses were destroyed by fire to reach results. They had found the use of anti-plague serum very effective in suspected cases.

#### FIFTH SESSION.—JANUARY 7TH.

**Trachoma in Mexico.**—Dr. José Ramos, of Mexico, stated that this disease was gradually spreading in the Republic, and there were certain well-recognized areas where it was more frequently found, but there was no doubt that the elevation at which most of the people lived had a good influence on the disease, and that it was rather more benign than in other parts of the world. He urged that popular lectures for general practitioners be given throughout the country on the diagnosis and treatment of trachoma.

Dr. Calvo read by title all of the papers on the program, the authors of which were not present, or had no time to read them.

The delegates and members were warmly received and royally entertained.

The next place of meeting will be in Guatemala City, Guatemala, in 1908.

#### MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

##### SECTION ON CLINICAL MEDICINE AND SURGERY.

*Stated Meeting, held December 2, 1904.*

**Gastro-Enterostomy and Pyloroplasty.**—This subject was reviewed by Dr. Finney and a report of his own operation with record of results to date was presented. At the time of the first published account of the Finney pyloroplasty five cases were reported. Since then 80 cases have been recorded in the literature and the results have been very satisfactory. The procedure was said to be really an anastomosis between stomach and duodenum with division of the intervening structures; and it should more properly be called a gastro-pyloro-duodenostomy. Dr. Finney had, he said, recently operated on his twenty-second case. In this series there had been two deaths: one in a diabetic, who died in coma, healing of the pyloroplasty being found to be perfect at

autopsy; and the other, a death from intestinal volvulus. Five days after operation, the healing again being perfect. This case emphasized the fact that the so-called "vicious circle" so often occurring in anastomosis between stomach and intestine and characterized by persistent vomiting, may in reality be an intestinal obstruction. Dr. Finney said that his series warranted him in reporting progress, though the operation was only to be recommended in benign stenoses. He had, however, gradually extended the class of cases in which he performed pyloroplasty. Most often it was done for cicatricial obstruction. In two patients chronic indigestion without cause was the indication and both were relieved. It had also been efficacious for persistent uncontrollable vomiting. In two patients with active ulcer the operation was done successfully.

**Objections to Finney Pyloroplasty.**—The objections raised to the operation were said to be: (1) That it was difficult in cases where adhesions were present; Dr. Finney said this had not been the case in his series. (2) That it was not of use in the presence of active ulceration; two cases of those reported had, however, shown this condition and had done well. (3) That the operation did not give a low enough pyloric opening; but Dr. Finney said this could be made as low as desired.

**Advantages of Pyloroplasty.**—These, Dr. Finney said, were (1) absence of regurgitation of bile; (2) restoration of practically normal anatomical relations; (3) slight mutilation of tissue; (4) absence of opportunity for formation of peptic ulcer.

**Gastro-Enterostomy.**—The history of this operation was reviewed and the defects of each procedure noticed. Dr. Finney then described a method which he had recently used, similar to the procedure described by Scudder, of Boston. The portion of bowel chosen was at the junction of duodenum and jejunum. Here the intestine runs directly downward and anastomosis at this point provides direct passage for the food, allows for a posterior operation, uses the most dependent portion of the stomach and leaves a short intestinal loop, in this way diminishing the likelihood of peptic ulcer. The operation of gastro-enterostomy should, Dr. Finney said, be limited to cases of cancer in which a radical operation was out of the question.

Dr. Friedenwald reported the findings of stomach examinations made on patients operated on by the Finney pyloroplasty. Five cases were studied before and after operation. The gastric contents were collected one hour after an Ewald meal, five hours after a heavy dinner, and after a fast of ten hours. In all five cases the dilated stomach was shown to be restored to normal, the gastric secretion to be much improved and the retention of food in the stomach longer than normal to be abolished. Dr. Martin said that he had always done the Heineke-Mikulicz operation and had gotten fair results. He had had no deaths and knew of no objection to the operation. Von Hacker's gastro-enterostomy did theoretically allow of biliary regurgitation but practically the results were good after it. Dr. Friedenwald was asked if there were any signs in these patients of intestinal upsets due to the premature discharge of unprepared food from the stomach functioning without its sphincter. He answered that in the first three weeks following operation intestinal symptoms were present, but that these later disappeared.

**Neglect of Eye Cases.**—Dr. Theobald discussed this subject with particular reference to the occur-

rence of total blindness. There were, according to the eleventh census 50,000 totally blind persons in the United States or an average of one in 1,238 of population. Cohn and others have estimated that about 40 per cent. of the cases are avoidable; in other words, 20,000 totally blind persons in the United States are blind through somebody's fault. The percentage of total blindness is smaller among negroes than among whites, and in cities of over 50,000 population than elsewhere. It is high in Ireland and Russia and reaches a maximum of one case to every 3,300 of population in Iceland. In Holland, where average intelligence is high, education good and ophthalmology well practised, absolute blindness is less frequent than anywhere else in the world. The causes of this condition are said to be: (1) Congenital; a factor in only about four per cent. of the cases; (2) idiopathic eye conditions; (3) ophthalmia neonatorum. Nearly all of these cases could have been prevented—probably as many as 90 per cent. At Leipzig the introduction of Credé's prophylaxis reduced the occurrence of the condition from 10 to ½ per cent. (4) Glaucoma (inflammatory.) This could almost always be checked by operation. (5) Diseases of the uveal tract. (6) Diseases of the cornea. Treatment ought to reduce immensely the frequency of blindness following this condition. (7) Sympathetic ophthalmia. This ought to occur only in those cases where the obstinacy of the patient prevented treatment. (8) High myopia. (9) General disease. In lues of the brain recognition of the condition and prompt treatment will diminish the frequency of blindness. In diseases of the spinal cord there is often little to be done. Ulcers of the cornea in acute infectious diseases can usually be controlled by proper treatment. (10) Traumatism, stupidity and obstinacy on the part of patients and a disposition on the part of general practitioners to take the responsibility in cases really belonging to specialists. These were said to be the two main factors in avoidable blindness. Happily, in recent years, a decrease in the frequency of the condition has been noted among civilized peoples.

## BOOK REVIEWS.

A TEXT-BOOK OF ALKALOIDAL THERAPEUTICS. By W. F. WAUGH, M.D., and W. C. ABBOTT, M.D., with the collaboration of E. M. EPSTEIN, M.D. The Clinic Publishing Co., Chicago.

For some time the authors have been propagating a new (*sic*) system of therapeutics, the principle of which is to employ active principles instead of crude drugs. This, to one outside the cult, would seem to be the general trend in medicine to-day, in so far as pharmacological research and success in isolating active principles on a commercial scale have kept pace with the demands of therapeutics. However, we have carefully scanned this exponent of the new (*sic*) system for something new, and have found that "alkaloidal therapeutics" embraces 146 remedies, of which only 36 are alkaloids and the rest such substances as iodoform, iron, mercury, nuclein, pepsin, podophyllin, salicylic acid, etc. Why the only "alkaloidal" potassium salts are the bichromate and permanganate, why butyl chloral hydrate is included and not chloral hydrate, the authors do not tell us. But they have a way of talking of morphine, strychnine, aconitine, etc., as if they really believe that it is a new idea for physicians to use morphine rather than opium, or strychnine rather than nux



vomica. In fact, we wonder what is the object of the book, till we discover how careful the authors are to instil into the minds of the reader that these principles act best when in the form of "standard" granules, or so-and-so's (the name of some proprietary remedy), and we find that so-and-so and the maker of standard granules is always the manufacturing firm which bears the name of one of the authors. The book "Alkaloidal Therapeutics" would seem, therefore, to be an elaborate form of advertisement, well-written, and containing much valuable information.

**A TEXT-BOOK OF HUMAN PHYSIOLOGY.** By ALBERT P. BRUBAKER, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College, Philadelphia. P. Blakiston's Son & Co., Philadelphia.

TO ONE familiar with Brubaker's summaries of physiological research this work will be welcomed as fulfilling the promise given by the author's thoroughly practical outlook on current physiological progress.

TO the student and practitioner in need of a short and well-digested physiology we can most cordially recommend this volume. It is succinct, authoritative and modern.

**THE HUMAN STERNUM.** By A. M. PATERSON, M.D., Derby Professor of Anatomy in the University of Liverpool; Hunterian Professor at the Royal College of Surgeons of England. The University Press, Liverpool, England.

THIS work consists of three lectures, which were delivered before the Royal College of Surgeons, England. The presentation of such a work of scientific anatomy has necessitated the collection and careful study of an enormous amount of material in all stages of development. The results of the writer's investigations are presented in comprehensive descriptions from embryological, comparative and morphological points of view. The commonly accepted view of the morphology of the sternum is not considered to be the correct one. The main object of the work consists in the presentation of evidence to show that the origin of the sternum is not from rib elements, its association with the costal cartilages being a secondary one, but that the primary condition is in association with the shoulder girdle. The scientific reader will find the book interesting and profitable.

**TOXICOLOGY. A Manual for Students and Practitioners.** By E. W. DWIGHT, M.D., Instructor in Legal Medicine, Harvard University. Lea Brothers & Company, Philadelphia and New York.

THIS is a brief account of the poisonous action of the more widely used drugs. It contains a large amount of matter compressed in brief compass, but is not always reliable.

We note a few important omissions: Acetanilid, antipyrine, salol, iodoform, trional, sulphonal and others, but this may perhaps be excused because of the author's wish to economize space.

**THE PRACTICE OF OBSTETRICS.** Designed for the Students and Practitioners of Medicine. By J. CLIFTON EDGAR, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. Second Edition. Revised. P. Blakiston's Son & Co., Philadelphia.

FOR richness of illustration and wealth of clinical material, as well as for practical value to the working obstetrician, we have not seen for a long time, a work which equals this volume by Dr. Edgar.

We desire to accord to it unstinted praise, as it deserves it in the very highest degree.

It is to be stated that the favorable judgment of the profession has been so unanimous that in four months after its appearance Dr. Edgar's book has been revised in a second edition. This second edition before us is even richer in illustrations than the first. The size is not much increased. We find, we believe, in this book a rare mingling of scientific findings, and beside practice, brought out in a highly satisfactory manner. We can confidently look forward to a third edition in the near future.

**SURGICAL EMERGENCIES. The Surgery of the Abdomen, Part I. Appendicitis and other Diseases about the Appendix.** By BAYARD HOLMES, B.S., M.D., Professor of Surgery in the University of Illinois; Professor of Clinical Surgery in the American Medical Missionary College, etc. D. Appleton, New York.

IT is with rare pleasure that one greets in this little volume a cheering appreciation and application of the classification of that great anatomist of Cornell, Bart Wilder. If, as is by no means the case, there were no other commending qualifications in the volume, this would be sufficient to secure its most cordial indorsement, for it is high time that general text-books of medicine and surgery break away from the medieval medical style and substitute a modern, rational, scientific nomenclature. In preparing his work, the author has taken skilful advantage of the fact that the perspective of the practising physician, of the consulting physician and of the surgeon is in each case very different.

For an unpretentiously made book, the illustrations are numerous and unusually good. Special attention is called to those portraying an ideal mannikin with luminosities showing the point of maximum pain and its radiations. These cannot fail to be of lasting value to the student.

**THE PURIN BODIES OF FOODSTUFFS AND THE RÔLE OF URIC ACID IN HEALTH AND DISEASE.** By I. WALKER HALL, M.D. Second Edition, Revised. P. Blakiston Sons & Co., Philadelphia.

THE purin bodies, including xanthin, hypoxanthins, caffeine, theobromine, uric acid and others, play an important part in the food, the therapeutics and the metabolism of the body. Unfortunately little is known of them. The author of this book has made estimations of the purin bodies in the more common foodstuffs, and studied their specific effects upon the metabolic processes in animals and man, taken into the body either subcutaneously or by mouth. Not only these, the exogenous purins, but also those derived from the cell changes necessary to the maintenance of bodily function are considered. The author reaches the conclusion that the circulation of purins is an important factor in the production of certain chronic pathological conditions. The book is an original contribution to a difficult, but promising subject, and is sure to stimulate further investigation.

**INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Original Articles** by leading members of the Medical Profession throughout the world. Edited by A. O. J. KELLY, M.D., Philadelphia.

THE present number of the International Clinics contains an especially good collection of special articles and clinical lessons on syphilis. Among those deserving of particular notice are articles by Dr. Wm. G. Spiller, of Philadelphia, on "Syphilis of the Nervous System,"

by Prof. Alfred Fournier, of the University of Paris, on "Syphilis and Suicide," and by Campbell Williams, of London, on "Uncertainty of Syphilitic Inoculation." Prof. Fournier's article calls attention to the danger that exists for persons of unstable mental health if they are bluntly told without proper preparation that they have syphilis. His experience includes some 18 cases of suicide associated with the disease.

In this number the Department of Treatment is especially suggestive.

**THE HOUSEBOAT BOOK.** The Log of a Cruise from Chicago to New Orleans. By Wm. F. WAUGH, M.D. The Clinic Publishing Co., Chicago, 1904.

DR. WAUGH gives a rather interesting account of his houseboat trip to New Orleans. Those contemplating a like trip will find in it many valuable hints. As a bit of physical therapeutics we could well imagine that such a trip might be just the thing for many an over-worked physician. It would bring him back to Mother Nature for her curative potencies to have their effect.

**FRIEDBERGER AND FRÖHNER'S VETERINARY PATHOLOGY.** Translated and Edited by M. H. HAYES, F.R.C.V.S. Vol. I. W. T. Keener & Co., Chicago.

MEDICINE is so rapidly assuming its true biological character that works in veterinary pathology cannot fail to be of service even to the practising physician. In a sense, nearly every practitioner, particularly those in rural communities, are veterinarians, either for their own stock or for that of their neighbors, and this work will appeal, by reason of its essentially practical nature as well as scientific merit.

**SERUMS, VACCINES AND TOXINES IN TREATMENT AND DIAGNOSIS.** By W. CECIL BOSANQUET. W. T. Keener & Co., Chicago.

THIS is a little book of only 340 duodecimo pages, but is the best little book we have seen dealing with this important subject. One can slip it in the pocket and while traveling read it and be benefited, as it is thoroughly up-to-date, readable and withal practical. We most cordially commend it.

**TRANSACTIONS OF THE FIFTH ANNUAL MEETING OF THE ROCKY MOUNTAIN INTER-STATE MEDICAL ASSOCIATION,** held at Salt Lake City, 1903.

THE volume consists of the papers presented at the meeting. Some of these are Neuritis Due to Forward Dislocation of the Mandible, by G. A. Moleen, Intubation by F. E. Waxham, Surgical Anatomy of the Cervical Sympathetic, by H. D. Niles, Bilateral Excision of Middle and Superior Cervical Ganglia in Five Cases of Epilepsy, by S. D. Hopkins, and Elements in the Recovery of the Incipient and Acute Insane, by T. E. Courtney. There is also a very interesting report of the rare condition, volvulus of the stomach, by C. D. Spivak, and a review of the subject of Pyloric Obstruction, by A. C. Behle.

**THE MODERN NURSING OF CONSUMPTION.** By JANE H. WALKER, M.D., Medical Superintendent of the East Anglian Sanatorium. The Scientific Press, Ltd., London, 1904.

DR. WALKER'S little book contains many practical points for the care of the tuberculous. It is evidently the result of experience and is direct and judicious in its suggestions. Take but the one point that the rooms of tuberculous patients must always be dusted with a wet cloth—not a damp cloth, for this is almost sure not to collect all the dust and a good idea of how detailed the instructions are can be obtained. All those interested in the care of consumptives will find it useful.

## BOOKS RECEIVED.

THE MEDICAL NEWS acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the MEDICAL NEWS will shortly appear.

**APPENDICITIS.** By Dr. B. Holmes. 12mo, 350 pages. D. Appleton & Co., New York.

**MULTIPLE PERSONALITY.** By Drs. B. Sidis and Goodhart. 8vo, 462 pages. A. Appleton & Co., New York.

**THE MODERN NURSING OF CONSUMPTION.** By Dr. Jane Walker. 12mo, 48 pages. Scientific Press, London.

**TOXICOLOGY.** By Dr. E. W. Dwight. 12mo, 298 pages. Lea Brothers & Company, Philadelphia and New York.

**THE HOUSEBOAT BOOK.** By Dr. Wm. F. Waugh. 12mo, 211 pages. Illustrated. Clinic Publishing Co., Chicago.

**DUALITY OF THOUGHT AND LANGUAGE.** By Dr. E. Sutro. 12mo, 277 pages. The Physio-Psychic Society, New York.

**PRACTICAL DIETETICS.** By Dr. A. F. Pattie. Second edition. 12mo, 310 pages. Published by the author, New York.

**MEDICAL LATIN.** By Dr. W. T. Sinclair. Second edition. 12mo, 121 pages. P. Blakiston's Son & Co., Philadelphia.

**THE ART OF COMPOUNDING.** By Dr. W. L. Scoville. Third edition. 8vo, 338 pages. P. Blakiston's Son & Co., Philadelphia.

**NEW METHODS OF TREATMENT.** By Dr. Laumoiner. Translated by Dr. H. W. Syers. 12mo, 321 pages. W. T. Keener & Co., Chicago.

**DISEASES OF THE NOSE, THROAT AND EAR.** By Dr. S. S. Bishop. Third edition. 8vo, 563 pages. Illustrated. F. A. Davis Co., Philadelphia.

**ACCIDENTS AND EMERGENCIES.** By Dr. C. W. Dulles. Sixth edition. 12mo, 209 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

**OUTLINES OF PHYSIOLOGICAL CHEMISTRY.** By Drs. S. P. Beebe and B. H. Buxton. 12mo, 195 pages. Illustrated. The Macmillan Co., New York.

**MANUAL OF SERUM DIAGNOSIS.** By Dr. A. Rostoki. Translated by Dr. Chas. Boldnan. 12mo, 86 pages. Illustrated. John Wiley & Sons, New York.

**ESSENTIALS OF CHEMICAL PHYSIOLOGY.** By Dr. W. D. Halliburton. Fifth edition. 8vo, 236 pages. Illustrated. Longmans, Green & Co., New York.

**INTERNATIONAL CLINICS.** By Dr. A. O. J. Kelly. Volume III. Fourteenth series. 8vo, 302 pages. Illustrated. J. B. Lippincott & Co., Philadelphia.

**TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL SOCIETY FOR THE YEAR 1904.** Volume XX. Guy Hinsdale, Secretary. 8vo, 291 pages. Philadelphia.

**KIRK'S HANDBOOK OF PHYSIOLOGY.** By Dr. W. D. Halliburton. Nineteenth edition. 8vo, 902 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

**DISEASES OF THE SKIN.** By Dr. H. W. Stelwagon. Third edition. 8vo, 1,112 pages. Illustrated. W. B. Saunders & Co., New York, Philadelphia and London.

**HANDBOOK OF THE ANATOMY AND DISEASES OF THE EYE AND EAR.** By Drs. D. B. St. John Roosa and A. E. Davis. 12mo, 296 pages. F. A. Davis Co., Philadelphia.

**A TEXT-BOOK OF PRACTICAL THERAPEUTICS.** By Dr. H. A. Hare. Tenth edition. 8vo, 908 pages. Illustrated. Lea Brothers & Company, Philadelphia and New York.

**A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY.** By Dr. O. Hammersten. Fourth edition. Translated by Dr. J. A. Mandel. 8vo, 701 pages. Illustrated. John Wiley & Sons, New York.